

The SEGUE Stellar Parameter Pipeline. IV. Validation with an Extended Sample of Galactic Globular and Open Clusters

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ABSTRACT

Spectroscopic and photometric data for likely member stars of five Galactic globular clusters (M3, M53, M71, M92, and NGC 5053) and three open clusters (M35, NGC 2158, and NGC 6791) are processed by the current version of the SEGUE Stellar Parameter Pipeline (SSPP), in order to determine estimates of metallicities and radial velocities for the clusters. These results are then compared to values from the literature. We find that the mean metallicity ($\langle[\text{Fe}/\text{H}]\rangle$) and mean radial velocity ($\langle\text{RV}\rangle$) estimates for each cluster are almost all within 2σ of the adopted literature values; most are within 1σ . We also demonstrate that the new version of the SSPP achieves small, but noteworthy, improvements in $\langle[\text{Fe}/\text{H}]\rangle$ estimates at the extrema of the cluster metallicity range, as compared to a previous version of the pipeline software. These results provide additional confidence in the application of the SSPP for studies of the abundances and kinematics of stellar populations in the Galaxy.

Subject headings: methods: data analysis — stars: abundances, fundamental parameters — surveys — techniques: spectroscopic

1. Introduction

The Sloan Digital Sky Survey (SDSS), and its extensions, have now obtained *ugriz* photometry for several hundred million stars (through DR7; see Abazajian et al. 2009). The Sloan Extension for Galactic Understanding and Exploration (SEGUE; Yanny et al. 2009), one of three sub-surveys that collectively formed SDSS-II, obtained *ugriz* imaging of some 3500 deg² of sky outside of the SDSS-I footprint (Fukugita et al. 1996; Gunn et al. 1998,

2006; Stoughton et al. 2002; Abazajian et al. 2003, 2004, 2005, 2009; Pier et al. 2003; Adelman-McCarthy et al. 2006, 2007, 2008), with special attention being given to scans of lower Galactic latitudes ($|b| < 35^\circ$) in order to better probe the disk/halo interface of the Milky Way. SEGUE also obtained $R \simeq 2000$ spectroscopy over the wavelength range 3800–9200 Å for some 240,000 stars in 200 selected areas over the sky available from Apache Point, New Mexico. When combined with stars observed during SDSS-I, and the recently completed SEGUE-2 project within SDSS-III, a total of nearly 500,000 stars exploring the thin-disk, thick-disk, and halo populations of the Galaxy now have similar data.

The SEGUE Stellar Parameter Pipeline (SSPP; Lee et al. 2008a,b; Allende Prieto et al. 2008) processes the wavelength- and flux-calibrated spectra generated by the standard SDSS spectroscopic reduction pipeline (Stoughton et al. 2002), obtains equivalent widths and/or line indices for 85 atomic or molecular absorption lines, and estimates T_{eff} , $\log g$, and $[\text{Fe}/\text{H}]$, along with radial velocities, through the application of a number of approaches (see Lee et al. 2008a, hereafter Paper I, for a detailed discussion of the techniques employed by the SSPP; the appendix of the present paper describes recent changes in the SSPP).

A previous validation paper by Lee et al. (2008b, hereafter Paper II) demonstrated, on the basis of comparisons with a sample of three Galactic globular clusters (GCs) and two open clusters (OCs), that the SSPP provides sufficiently accurate estimates of stellar parameters for use in the analysis of Galactic kinematics and chemistry, at least over the ranges in parameter space covered by these clusters (in particular, for the metallicity range $-2.4 < [\text{Fe}/\text{H}] < 0.0$). However, it was noted in that paper that the largest outliers in SSPP-derived metallicities were found for clusters near the extrema of this range. The team of researchers working on the SSPP have, in the time since publication of the original validation paper, endeavored to improve the performance of the SSPP near these extremes. As part of this effort, which is leading to the production of a version of the SSPP suitable for application to the DR8 release of results from SDSS-III (including the $\sim 120,000$ stars observed during SEGUE-2), we have assembled SDSS photometry and spectroscopy for an additional sample of five GCs (including two with $[\text{Fe}/\text{H}] \sim -2.3$: M92 and NGC 5053, and one intermediate-metallicity cluster with $[\text{Fe}/\text{H}] \sim -0.7$: M71), and three OCs, one of which has been shown in the literature to exhibit a super-solar metallicity, $[\text{Fe}/\text{H}] = +0.3$ (NGC 6791).

This paper, Paper IV in the series describing and testing the SSPP, examines the derived stellar parameters for our newly added clusters as well as for the previously reported sample of clusters, based on the most recent version of the SSPP. From this exercise, it is clear that the low-metallicity behavior of the SSPP has improved, and that the SSPP is also now capable of obtaining acceptable parameter estimates for stars up to solar metallicity, or slightly above. Section 2 describes the photometric and spectroscopic data for the eight

clusters in our sample. The procedures for selecting likely true member stars in each cluster from among stars in the field are described in Section 3. Section 4 discusses the determination of $\langle[\text{Fe}/\text{H}]\rangle$ and $\langle\text{RV}\rangle$ estimates from the selected true member stars; these are compared to the values obtained by previous studies in Section 5. We then process the five clusters from Paper II through the current version of the SSPP, and compare the results and improvements in Section 6. Section 7 provides a summary of our results. An appendix describes the changes made in the SSPP since the previous version was released (and used for stellar parameter estimates in DR7). The present version of the SSPP should be very similar to that employed for the estimation of stellar parameters for stellar spectra in the next public release, DR8.

2. The Sample

We selected five Galactic GCs (M3, M53, M71, M92, and NGC 5053) and three OCs (M35, NGC 2158, and NGC 6791) which had already been observed by SDSS and processed by the SSPP. A number of other clusters were considered, but ultimately had to be rejected due to difficulties obtaining adequately reduced spectra from fields that were either too crowded or too heavily reddened. Because the default PHOTO pipeline (Lupton et al. 2001) was not designed to accurately deal with crowded fields such as those in the central regions of globular clusters, crowded-field photometric measurements were obtained using the DAOPHOT/ALLFRAME software package (Stetson 1987; Stetson 1994) for M3, M53, M71, M92, NGC 5053, and NGC 6791 (An et al. 2008). For the remaining clusters (M35 and NGC 2158) we followed the same procedures as in An et al. (2008) to obtain crowded-field photometry. Combining the SDSS photometry of the full field with the crowded-field photometry of the inner cluster regions, corrected for reddening and extinction using values listed in Table 1, resulted in a nearly complete catalog of *ugriz* photometry for the stars in each cluster region. Table 1 summarizes the properties of each cluster included in this study. Metallicity values from the compilation of Harris (1996) are tabulated as well as values from the recalibrated metallicity scale of Carretta et al. (2009).

The spectroscopic data was obtained during SEGUE observations using the ARC 2.5m telescope, with stars targeted for spectroscopic follow-up selected from a photometric color-magnitude diagram (CMD) for each cluster. Stars located on the diagram in the regions of the main sequence turn-off (MSTO) and red giant branch (RGB) were then selected as possible cluster members. Other stars in the field of each cluster were also selected by the default SEGUE target selection algorithm to fill each plug-plate, many of which ended up being cluster members themselves. Overall, SDSS spectroscopic data was obtained for 640 targets each in the regions of M3, M53, and NGC 5053, and 1280 targets each in the regions

of M35, M71, M92, NGC 2158, and NGC 6791, including sky spectra and calibration objects. Some of these targets had low average signal-to-noise spectra; for consistency with previous papers in this series, only those spectra with $\langle S/N \rangle > 10/1$ were considered for subsequent analysis. After processing by the SSPP some targets had no estimates for RV or $[Fe/H]$; these were excluded as well. After these cuts were made, there remained 487, 495, 579, 1094, 775, 495, 579, and 1087 stars considered for M3, M35, M53, M71, M92, NGC 2158, NGC 5053, and NGC 6791, respectively.

3. Cluster Membership Selection

Paper I has shown that the stellar spectra processed through the SSPP have typical uncertainties of 141 K, 0.23 dex, and 0.23 dex for T_{eff} , $\log g$, and $[Fe/H]$, respectively. Uncertainties in the radial velocity depends on the spectral type and apparent magnitude (and fall in the range 5-20 km s⁻¹; for most of the cluster stars the error is usually much less than 10 km s⁻¹. In this section we discuss how the adopted true members for each cluster are selected, based in part on their estimated metallicities and radial velocities.

3.1. Likely Member Star Selection

The procedure for determining the likely members of each cluster is the same as described by Paper II, and will only be discussed briefly here. Two procedures were designed for selecting likely true member stars, one for globular clusters and one for open clusters. The difference is primarily due to the lower number density of stars on the CMD of an open cluster compared to that of a globular cluster. However, the techniques are sufficiently different that, due to the highly evolved nature of NGC 2158 and NGC 6791, the procedure for open clusters could not be applied to these particular clusters because it relies on a function fit to the main stellar locus which, in these cases, would be double-valued around the main-sequence turnoff. Hence, we have employed the procedure for globular clusters to the open clusters NGC 2158 and NGC 6791, and describe specific reasons for having done so where applicable.

Due to the limited number of stars with spectroscopic data, it was necessary to use the photometry to produce a well-defined CMD, over which the spectroscopic data were then plotted. The stars inside each cluster’s tidal radius (r_t) were selected as the first cut of likely members, indicated by the green circles in Figure 1. Stars inside a concentric annulus (where possible) were selected as field stars, indicated by the black circles in these figures. CMDs

of both regions were obtained, then divided into sub-grids 0.2 mag wide in g_0 and 0.05 mag wide in $(g - r)_0$ color. Note that the field region of M92 (shown in Figure 1) is offset from the cluster center due to its position at the edge of the photometric scan. This was necessary because an annular field region around this location would have been inadequately populated with stars.

In each sub-grid, the signal-to-noise (s/n) was calculated using:

$$s/n(i, j) = \frac{n_c(i, j) - gn_f(i, j)}{\sqrt{n_c(i, j) + g^2n_f(i, j)}}, \quad (1)$$

where n_c and n_f refer to the number of stars counted in each sub-grid with color index i and magnitude index j within the cluster region and field region, respectively, and the parameter g is the ratio of the cluster area to the field area. These values were sorted in descending order in an array with index l , then star counts were obtained in increasingly larger sections of the array. The area in each section is defined as $a_k = ka_l$, where $a_l = 0.01 \text{ mag}^2$ represents the area of a single sub-grid; k is the number of sub-grids in the section. Then, the cumulative signal-to-noise ratio, S/N, as a function of a_k , was calculated using:

$$S/N(a_k) = \frac{N_c(a_k) - gN_f(a_k)}{\sqrt{N_c(a_k) + g^2N_f(a_k)}}, \quad (2)$$

where

$$N_c(a_k) = \sum_{l=1}^k n_c(l), \quad N_f(a_k) = \sum_{l=1}^k n_f(l). \quad (3)$$

Here, $n_c(l)$ represents the number of cluster stars within the ordered sub-grid array element l ; $n_f(l)$ represents the same quantity for the field stars. A threshold value for s/n was adopted, based on the maximum value of $S/N(a_k)$, to identify areas of the CMD where the ratio of cluster stars to field stars was high (rejecting single-star events). These areas were taken to be sub-grids of likely cluster members, and all sub-grids with $s/n(i, j)$ greater than this threshold were identified. These sub-grids are shown as boxes in Figures 2 – 4. The left-hand panels show the stars inside the tidal radius – the sub-grids with s/n greater than the threshold value are indicated as red squares. The right-hand panels show the stars from the field region with the same sub-grids, indicated in green.

The procedures described in Paper II handle OCs differently from GCs, primarily due to the fact that no field region is required. Instead of determining sub-grid s/n ratios, a

fiducial line is fit to the open cluster’s MS using a polynomial fitting routine, then a region is picked out by eye corresponding to the MS to represent the likely member stars. The interested reader is referred to Paper II for further details on the open cluster member selection procedure. This procedure works well on young clusters, where no significant evolution off the MS has occurred. However, NGC 2158 and NGC 6791 are evolved (older) clusters, and exhibit a distinct MSTO and RGB (see Figure 4). This prevents polynomial fitting of the CMD from working properly since the function would be double valued, so in this study NGC 2158 and NGC 6791 are processed (for the purpose of member assignment) as if they are globular clusters. The usual open cluster procedure was successfully implemented for M35 (Figure 5).

The cleaned CMDs for our sample are shown in Figures 6 and 7. The black points are the likely members from the photometry, while the red open circles are the likely members from the spectroscopic sample. This part of the procedure could not be carried out for M71 due to difficulties encountered with the photometry values available for this cluster at the time of our analysis (see An et al. 2008). Therefore, a first cut was made based on the tidal radius of the stars, and those stars were passed on to the final step, as outlined in the following section. Figure 5 shows the first-cut CMD for M71.

3.2. Selection of Adopted True Members

We next determine the true member stars as a subset of the adopted likely member stars. Figure 8 shows the distributions of $[\text{Fe}/\text{H}]$ (left-hand panel) and radial velocities (RV; right-hand panel) for stars in the field of NGC 5053 at each culling point in the procedure. The black lines indicate all 579 stars on the original spectroscopic plate (after removing stars with no parameter estimates from the SSPP or low spectral S/N), while the red lines indicate only those stars inside r_t , and the green lines indicate those stars that passed the cut using the individual sub-grid s/n and cumulative S/N calculations. We then performed a Gaussian fit to the highest peak of the distribution of this final subset (blue line) and obtained estimates of the mean and standard deviation of $[\text{Fe}/\text{H}]$ and RV. Finally, outliers were rejected by applying a 2σ cut on both parameters:

$$\langle [\text{Fe}/\text{H}] \rangle - 2\sigma_{[\text{Fe}/\text{H}]} \leq [\text{Fe}/\text{H}]_{\star} \leq \langle [\text{Fe}/\text{H}] \rangle + 2\sigma_{[\text{Fe}/\text{H}]} \quad (4)$$

$$\langle \text{RV} \rangle - 2\sigma_{\text{RV}} \leq \text{RV}_{\star} \leq \langle \text{RV} \rangle + 2\sigma_{\text{RV}}. \quad (5)$$

$[\text{Fe}/\text{H}]_{\star}$ and RV_{\star} correspond to the metallicity and radial velocity of each star in question.

If a star passed both cuts then it was considered a true member star. The numbers of true member stars determined by this final cut for each cluster are listed in Table 2.

4. Determination of Overall Metallicities and Radial Velocities of the Clusters

Once the true members were selected as described above, final estimates of the cluster metallicities and radial velocities were obtained. Figures 8–15 show binned distributions of $[\text{Fe}/\text{H}]$ and RV for each cluster. The black lines in these figures represent the full distribution of all stars in each cluster’s field with available spectroscopic information, the red lines represent only those stars from the spectroscopic samples that lie inside each cluster’s tidal radius (or a reasonable radius, for M71 and NGC 6791), and the green lines represent those stars that passed the sub-grid s/n cut described in Section 3.1. Gaussian fits (blue lines) to the highest peak of this final distribution determined the adopted cluster values, which are listed in Table 2. This table also lists the standard error in the mean (σ_μ) for the estimates of metallicity and radial velocity for each cluster; due to the large numbers of true members for each cluster, these are uniformly small.

No strong trends appear to exist in estimates of $[\text{Fe}/\text{H}]$ as a function of color or spectral quality, as shown in Figures 16 and 17. As a check, we calculated residuals of $[\text{Fe}/\text{H}]$ with respect to the values adopted for each cluster from the literature, using:

$$\text{Res}_{[\text{Fe}/\text{H}]} = [\text{Fe}/\text{H}] - [\text{Fe}/\text{H}]_{\text{lit}}, \quad (6)$$

and performed a linear regression on these values as a function of $(g - r)_0$ color and $\langle S/N \rangle$ using models of the form:

$$\text{Res}_{[\text{Fe}/\text{H}]} = X \cdot (g - r)_0 + Y \quad (7)$$

$$\text{Res}_{[\text{Fe}/\text{H}]} = X \cdot (S/N) + Y. \quad (8)$$

The results of the linear regressions are listed in Table 3. Column (2) lists the number of true member stars used in the fit, Columns (4) and (6) list the slope and zero-point of the fit, respectively, while Columns (5) and (7) list the corresponding uncertainties. Finally, Column (8) lists the R^2 value, which indicates the amount of scatter in the data that can be accommodated by the regression. Values of R^2 close to zero indicate little dependence on the independent variable (the desired goal), whereas values of R^2 close to one indicate a large dependence on the independent variable. There are two clusters (NGC 5053 and M35) for

which the R^2 values are somewhat high. These appear to have been influenced by stars at the extrema of the color ranges, but still do not rise to the level of strong statistical significance. The fits for the rest of the clusters have sufficiently low values of R^2 that the correlations are not statistically significant; Figures 18 and 19 show the distribution of metallicity estimates as a function of the estimated surface gravity. No significant trends are observed, supporting the conclusion of Paper II that the SSPP is robust and reliable over large ranges in surface gravity (luminosity) and color, even for spectra with less-than-optimal S/N.

The SSPP-estimated temperatures and surface gravities for true member stars are plotted in Figures 20–27 over the cleaned CMDs of the likely member stars from the photometric sample that passed the s/n cut. The spectroscopic data points are plotted in different colors, in temperature steps of 500 K and $\log g$ steps of 0.5 dex. Stars at the top of the MS and on the MSTO have generally lower S/N than those on the RGB and HB, so the fact that some non-uniformity is observed in the distribution of T_{eff} and $\log g$ in stars near the MSTO is not unexpected.

Table 5 lists the SSPP-derived properties for all stars selected as true cluster members from each cluster, as well as the extinction-corrected *ugriz* magnitudes and errors for the photometry employed.

5. Individual Cluster Discussion and Comparison with Previous Studies

Here we examine previous studies of these clusters, and assess how well the SSPP-derived estimates for cluster metallicity and radial velocity compare with the values reported in the literature. This section is not intended to be a comprehensive review, but rather concentrates on high-resolution spectroscopic results from studies that have been published within the past decade.¹ Due to the relative paucity of radial velocities for some clusters, older studies are cited where needed. We first consider the globular clusters, followed by the open clusters, ordered from low metallicity to high metallicity.

5.1. NGC 5053

NGC 5053 is known to be metal-poor, but has otherwise not been widely studied. One spectroscopic plug-plate observation produced only 16 true member stars, with less than

¹All references to Harris (1996) refer to the 2003 update on his web page: <http://www.physics.mcmaster.ca/~harris/mwgc.dat>.

optimal coverage inside r_t (see Figure 1). Our estimate of the mean metallicity, $\langle[\text{Fe}/\text{H}]\rangle = -2.25 \pm 0.25$, is within 1σ of that reported by Harris (1996; -2.29). The recalibration by Carretta et al. (2009) reports a value of -2.30 , with which we are also consistent.

Our mean radial velocity, $\langle\text{RV}\rangle = +44.0 \pm 4.9 \text{ km s}^{-1}$, is the same as that given by Harris (1996; $+44.0 \text{ km s}^{-1}$).

5.2. M92 (NGC 6341)

Two spectroscopic plug-plate observations of this cluster yielded 58 true cluster members. Our estimated mean metallicity, $\langle[\text{Fe}/\text{H}]\rangle = -2.25 \pm 0.17$, is within 1σ of the values given by Harris (1996; -2.28) and Carretta et al. (2009; -2.35). While King et al. (1998) obtained a much lower metallicity estimate from only Fe I lines of 6 subgiant stars in their sample ($[\text{Fe}/\text{H}] = -2.52$), examining the 17 subgiant member stars from this cluster in our sample reveals a mean metallicity of -2.27 , in agreement with our overall mean metallicity as well as with the metallicities adopted by the Harris and Carretta et al. compilations. King et al. (1998) acknowledge that their low signal-to-noise spectra and limited spectral coverage, along with the metal-poor nature of M92 and an uncertain reddening correction, resulted in a degeneracy between their estimates of T_{eff} and microturbulence that may have produced a lower value for $[\text{Fe}/\text{H}]$. In their analysis of literature data, Kraft & Ivans (2003) report abundances from Fe I and Fe II lines of -2.50 and -2.38 , respectively; both are lower than our result but consistent with King et al. (1998).

Our SSPP-derived estimate for the radial velocity, $\langle\text{RV}\rangle = -116.5 \pm 8.7 \text{ km s}^{-1}$, is within 1σ of that provided by Harris (1996; -120.3 km s^{-1}). A recent study by Drukier et al. (2007) reported a radial velocity of $\text{RV} = -121.2 \text{ km s}^{-1}$, based on a sample of 306 cluster members, which is also in agreement with our value.

5.3. M53 (NGC 5024)

M53 is located at the edge of the plug-plates for observations of NGC 5053, resulting in just 50 fibers being placed inside the tidal radius. As a result, only 19 stars were selected as true members. Our measured mean metallicity, $\langle[\text{Fe}/\text{H}]\rangle = -2.03 \pm 0.13$, is in agreement with Harris (1996; -1.99) and Carretta et al. (2009; -2.06), as well as with most earlier photometric and spectroscopic abundance studies that indicated a metallicity lower than -1.8 (e.g., Pilachowski et al. 1983). More recently, a moderate-resolution spectroscopic analysis of member stars from M53 by Lane et al. (2010) provided a metallicity estimate

of $\langle[\text{Fe}/\text{H}]\rangle = -1.99$, with which our result agrees nicely. Although a recent photometric study by Dékány & Kovács (2009) exhibited a discrepancy in $[\text{Fe}/\text{H}]$ between horizontal-branch (variable) stars and stars on the red giant branch, our sample shows no statistically significant difference between the mean metallicity on the horizontal branch versus the red-giant branch for this cluster ($\langle[\text{Fe}/\text{H}]\rangle_{\text{HB}} = -2.11 \pm 0.09$; $\langle[\text{Fe}/\text{H}]\rangle_{\text{RGB}} = -1.96 \pm 0.12$). Our derived mean metallicity is within 1σ of their giant-branch mean metallicity of -2.12 .

Radial velocity measurements reported in the literature for this cluster are a bit more scattered. Harris (1996) reported a value of -79.1 km s^{-1} , whereas a more recent medium-resolution spectroscopic study by Lane et al. (2009), using 180 giant stars, resulted in a mean value of -62.8 km s^{-1} . Our value, $\langle\text{RV}\rangle = -59.6 \pm 7.9 \text{ km s}^{-1}$, from 19 RGB and HB stars, is consistent with the Lane et al. (2009) result.

5.4. M3 (NGC 5272)

One spectroscopic plug-plate observation for this cluster produced 77 true member stars. Our measured value of $\langle[\text{Fe}/\text{H}]\rangle = -1.55 \pm 0.13$ is well within 1σ of that reported by Harris (1996; -1.57) and the recalibrated scale by Carretta et al. (2009; -1.50). A high-resolution spectroscopic study by Cavallo & Nagar (2000) of 6 giants at the tip of the RGB produced an estimate of $[\text{Fe}/\text{H}] = -1.54$, and an analysis of literature data performed by Kraft & Ivans (2003) yielded metallicity estimates from both Fe I and Fe II lines of -1.58 and -1.50 , respectively. Furthermore, a recent study of 23 RGB stars using high-resolution spectroscopy from Keck yielded $[\text{Fe}/\text{H}] = -1.58$ from Fe II lines (Snedden et al. 2004). Finally, while our value is only barely within 1σ of the estimated iron abundance for M3 from Cohen & Meléndez (2005), who obtained a somewhat higher value of $[\text{Fe}/\text{H}] = -1.39$ based on Keck/HIRES spectroscopy, it should be kept in mind that recent results from Cohen and collaborators adopt a temperature scale that is several hundred Kelvin warmer than most other researchers, which could easily accommodate the 0.16 dex offset with respect to their reported value of metallicity. Thus, our SSPP-derived estimate for $[\text{Fe}/\text{H}]$ is in excellent agreement with all of these previous studies, while spanning the entire length of the RGB, including stars on the horizontal branch as well.

Our estimate of the cluster’s mean radial velocity, $\langle\text{RV}\rangle = -141.2 \text{ km s}^{-1} \pm 5.6$, is slightly different those from Harris (1996) and Cohen & Meléndez (2005), who both report the same value (-147.6 km s^{-1}), and Sneden et al. (2004), who reported a mean radial velocity of -149.4 km s^{-1} . However, it is only just beyond 1σ of these values; when accounting for the uncertainty in the literature values the difference is not significant.

5.5. M71 (NGC 6838)

M71 is an important cluster for validation of the SSPP, due to its intermediate metallicity ($[\text{Fe}/\text{H}] \sim -0.7$), a regime that was not represented by previously considered clusters. Unfortunately, a total of 155 fibers inside the adopted radius of 4.0 arcmin resulted in just 17 true member stars. Literature values from Harris (1996; -0.73) and a Keck/HIRES study by Boesgaard et al. (2005; -0.80) are both consistent with our value of the mean metallicity, $\langle[\text{Fe}/\text{H}]\rangle = -0.79 \pm 0.06$, at the 1σ level, as is that from Carretta et al. (2009; -0.82). In an in-depth analysis using Keck/HIRES spectroscopy of 25 stars from the turnoff to the RHB, Ramírez et al. (2001) measured iron abundances from Fe I and Fe II lines individually, and compared them against each other for various regions of the CMD. Their values range from -0.64 to -0.86 , with an error-weighted mean of -0.71 , in agreement with our value at the 1.5σ level. Finally, Kraft & Ivans (2003) also report consistent abundances from Fe I and Fe II lines of -0.82 and -0.81 , respectively.

Our mean radial velocity determination, $\langle\text{RV}\rangle = -16.9 \pm 9.3 \text{ km s}^{-1}$, is within 1σ of that reported by Harris (1996; -22.8 km s^{-1}). Keck/HIRES data from Cohen et al. (2001) produced a mean radial velocity of -21.7 km s^{-1} , which is also consistent with our observation.

5.6. NGC 2158

A total of 109 fibers located inside the adopted radius for this open cluster (6.0 arcmin) resulted in a relatively high yield of 62 true member stars. With this sample, we measured a mean metallicity of $\langle[\text{Fe}/\text{H}]\rangle = -0.26 \pm 0.08$. While this is in agreement with the values from Dias et al. (2002; -0.25), a high-resolution spectroscopic study of one giant star by Jacobson et al. (2009) produced a nearly solar mean metallicity of -0.03 ± 0.14 . However, a more recent follow-up study using WIYN Hydra spectroscopy at $R \sim 21,000$ for 15 stars in NGC 2158 produced a metallicity of $[\text{Fe}/\text{H}] = -0.28 \pm 0.05$ (H. Jacobson et al. 2010, in preparation), a value that is consistent not only with prior studies of this cluster, but with ours as well.

Using moderate-resolution spectroscopy, Scott (1995) reported a mean radial velocity for NGC 2158 of $+28.1 \text{ km s}^{-1}$. This and the value reported by Dias et al. (2002) of $+28.0$ are both consistent with our measurement of $+27.8 \pm 5.9 \text{ km s}^{-1}$.

5.7. M35 (NGC 2168)

This open cluster is located at the edge of the plug-plates from the spectroscopic observations and was not heavily targeted with fibers. As a result, only 72 fibers were located inside the adopted radius, yielding 29 true members. The adopted radius is less than the tidal radius due to its proximity to NGC 2158. The field region of NGC 2158 does overlap with the tidal radius of M35, but this was not problematic for several reasons. First, stars included in a field region were never considered for membership so no M35 stars would have been picked up and included in NGC 2158 as potential members. Secondly, the rather different radial velocities of the two clusters would have ensured that even if some NGC 2158 stars were considered for membership in M35, they would have been dropped during the RV cut if not previously. Finally, due to their differing positions on the CMD, any potential M35 stars included in the field region of NGC 2158 would only have served to reduce the s/n in those sub-grid boxes on the CMD of NGC 2158. These being sufficiently far from the main locus, this would not cause any complications to the member selection for NGC 2158.

Our measured mean metallicity for this cluster, $\langle[\text{Fe}/\text{H}]\rangle = -0.20 \pm 0.18$, is consistent with that from Dias et al. (2002; -0.16), as well as with the study of Barrado Y Navascués et al. (2001), who obtained $\langle[\text{Fe}/\text{H}]\rangle = -0.21$ from a high-resolution spectroscopic analysis of 39 probable cluster members.

Barrado Y Navascués et al. (2001) measured a mean radial velocity from their sample of $\langle\text{RV}\rangle = -8.0 \text{ km s}^{-1}$, a value consistent with our observation ($-5.0 \pm 6.2 \text{ km s}^{-1}$). While our value of $\langle\text{RV}\rangle$ is slightly higher, compared to both their sample and the value from Dias et al. (2002; -8.2), it is still within 1σ , and therefore can be considered reliable. A more recent study by Geller et al. (2010) produced a radial velocity of $\langle\text{RV}\rangle = -8.16 \text{ km s}^{-1}$ based on high-resolution spectroscopy.

5.8. NGC 6791

NGC 6791 is another important cluster for our validation exercise, because it explores the super-solar metallicity region. This is another regime that was not considered with previously observed clusters; it is the most metal-rich cluster (to date) for which we were able to obtain successful spectroscopic reductions. There were two spectroscopic plug-plate observations for the region surrounding this cluster, which yielded a total of 90 true members. While our mean metallicity estimate, $\langle[\text{Fe}/\text{H}]\rangle = +0.31 \pm 0.13$, is statistically consistent with that given by Dias et al. (2002; $+0.11$) at the 2σ level, their reported value is significantly lower than that reported by other studies. It is known that NGC 6791 is a metal-rich open

cluster, with some estimates from high-resolution spectroscopy as high as $+0.47$ (Gratton et al. 2006). A study of 24 giant stars with medium-resolution spectroscopy yielded a metallicity estimate of $[\text{Fe}/\text{H}] = +0.32$ (Worthey & Jowett 2003), while Origlia et al. (2006) used medium-high resolution Keck/NIRSPEC spectroscopy to obtain an iron abundance of $+0.35$. Most recently, a high-resolution spectroscopic study of two MSTO stars by Boesgaard et al. (2009) yielded a value of $[\text{Fe}/\text{H}] = +0.30$. It is clear that our estimate is in better agreement with these recent high-resolution observations.

Our measured value of the mean radial velocity, $\langle \text{RV} \rangle = -47.0 \pm 6.0 \text{ km s}^{-1}$, is consistent with that reported by Dias et al. (2002; -57 km s^{-1}) at the 1.5σ level, as well as with that found by Origlia et al. (2006; -52 km s^{-1}).

6. Comparison of SSPP-7 with SSPP-P8

The SSPP has been modified slightly from the version used to produce atmospheric parameter estimates for stars in SDSS DR7; for clarity, we refer to that version as SSPP-7. We refer to the current version as SSPP-P8 (for pre-DR8), since it is anticipated that a number of additional improvements will be made prior to its application to SDSS DR8. The updates and improvements that have been made since SSPP-7 are discussed in detail in Appendix A.

The spectroscopic data from Paper II for the three Galactic globular clusters M2, M13, and M15, along with the two open clusters M67 and NGC 2420, have been analyzed with the new version of the SSPP; results are listed in Table 4 alongside those obtained from application of SSPP-7. The upper section of this table lists results for a final cut on true members performed using both $[\text{Fe}/\text{H}]$ and RV, while the lower section shows results for a final cut using RV alone. Paper II concluded that an RV cut is sufficient for stars inside a cluster r_t to obtain reliable results; this same conclusion is supported by the SSPP-P8 results. Inspection of this table also reveals clear improvements at the low-metallicity end of the scale, as compared to literature values from Harris (1996) and high-resolution spectroscopy reported by Carretta et al. (2009), Anthony-Twarog et al. (2006), and Randich et al. (2006), in particular for M15. The results for the two higher metallicity clusters are mixed, with M67 at the high-metallicity end showing moderate improvement. H. Jacobson et al. (2010, in preparation) report a higher metallicity for NGC 2420 of $[\text{Fe}/\text{H}] = -0.22 \pm 0.07$, which shows closer agreement with our improved SSPP-P8 value.

7. Summary

We have used spectroscopic and photometric data from SDSS-I and SDSS-II/SEGUE to determine mean metallicities and radial velocities for five Galactic GCs, M3, M53, M71, M92, and NGC 5053, as well as for three OCs, M35, NGC 2158, and NGC 6791. The data was run through the current version of the SSPP (which is similar to that which will be used for the next public release, DR8), and true member stars were selected from each cluster. The derived $\langle[\text{Fe}/\text{H}]\rangle$ and $\langle\text{RV}\rangle$ for the true members were then compared to the cluster properties reported in the literature.

The mean values of $[\text{Fe}/\text{H}]$ and RV for each cluster from the SSPP are in good agreement with those values reported in previous studies. Nearly all of the SSPP estimates are within 1σ of the adopted literature values, with the exceptions almost all falling within 2σ . The mean internal uncertainties of the SSPP-determined metallicities and radial velocities for true members in our sample are $\sigma_{[\text{Fe}/\text{H}]} = 0.05$ dex and $\sigma_{\text{RV}} = 3.0$ km s $^{-1}$, respectively, while the scatter about the mean residuals compared to the adopted literature values are $\sigma_{[\text{Fe}/\text{H}]} = 0.11$ dex and $\sigma_{\text{RV}} = 5.2$ km s $^{-1}$, demonstrating good internal and external consistency, and indicating that estimates of the atmospheric parameters and radial velocities for SDSS/SEGUE stellar data are sufficiently accurate for use in studies of the chemical compositions and kinematics of stellar populations in the Galaxy.

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Table 1. Literature Properties of Globular and Open Clusters

Parameter	NGC 5053	M92 (NGC 6341)	M53 (NGC 5024)	M3 (NGC 5272)	M71 (NGC 6838)	NGC 2158	M35 (NGC 2168)	NGC 6791
RA (J2000)	13:16:27.0	17:17:07.3	13:12:55.2	13:42:11.2	19:53:46.1	06:07:25	06:08:54	19:20:53
DEC (J2000)	+17:41:53	+43:08:11	+18:10:08.4	+28:22:32	+18:46:42	+24:05:48	+24:20:00	+37:46:18
(l, b)	(335.7, +78.9)	(68.3, +34.9)	(333.0, +79.8)	(42.2, +78.7)	(56.7, -4.6)	(186.6, +1.8)	(186.6, +2.2)	(70.0, +10.9)
[Fe/H]	-2.29 ^a	-2.28 ^a	-1.99 ^a	-1.57 ^a	-0.73 ^a	-0.25 ^b	-0.16 ^b	+0.30 ^c
[Fe/H] _C	-2.30	-2.35	-2.06	-1.50	-0.82	...	...	...
$(m - M)_0$	16.12 ^d	14.64 ^e	16.25 ^a	14.95 ^f	12.86 ^f	12.80 ^g	9.80 ^h	12.95 ^f
V_r (km s ⁻¹)	+44.0 ^a	-120.3 ^a	-79.1 ^a	-147.6 ^a	-22.8 ^a	+28.0 ^b	-8.2 ^b	-57.0 ^b
$E(B - V)$	0.017 ^e	0.023 ^e	0.021 ^e	0.013 ^e	0.275 ⁱ	0.44 ^j	0.20 ^h	0.117 ^b
r_t (arcmin)	13.67 ^a	15.17 ^a	21.75 ^a	38.19 ^a	8.96 ^a	2.5 ^b	20.0 ^b	5.0 ^b

Note. — Properties of the clusters in our sample as drawn from the literature, divided into globular clusters (left) and open clusters (right). The parameter r_t is the tidal radius in arc minutes for globular clusters or the apparent radius for open clusters. Exceptions to this are noted in the Fig. 1. The listed distance modulus $(m - M)_0$ is extinction corrected. The parameter [Fe/H]_C is from the recalibrated globular cluster metallicity scale of Carretta et al. (2009). References: ^a Harris (1996); ^b Dias et al. (2002); ^c Boesgaard et al. (2009); ^d Arellano Ferro et al. (2010); ^e Schlegel et al. (1998); ^f An et al. (2009); ^g Carraro et al. (2002); ^h Kalirai et al. (2003); ⁱ Grundahl et al. (2002); ^j Twarog et al. (1997)

Table 2. Measured Metallicities and Radial Velocities of Globular and Open Clusters

Cluster	$\langle[\text{Fe}/\text{H}]\rangle$	$\sigma([\text{Fe}/\text{H}])$ (dex)	$\sigma_{\mu}([\text{Fe}/\text{H}])$ (dex)	$\langle\text{RV}\rangle$ (km s ⁻¹)	$\sigma(\text{RV})$ (km s ⁻¹)	$\sigma_{\mu}(\text{RV})$ (km s ⁻¹)	N
NGC 5053	-2.26	0.25	0.06	+44.0	4.9	1.2	16
M92	-2.25	0.17	0.02	-116.5	8.7	1.1	58
M53	-2.03	0.13	0.03	-59.6	7.9	1.8	19
M3	-1.55	0.14	0.02	-141.2	5.6	0.6	77
M71	-0.79	0.06	0.01	-16.9	9.3	2.3	17
NGC 2158	-0.26	0.08	0.01	+27.8	5.9	0.7	62
M35	-0.20	0.18	0.03	-5.0	6.2	1.2	29
NGC 6791	+0.31	0.13	0.01	-47.0	6.0	0.6	90

Note. — Columns 2 and 5 list the measured mean values of $[\text{Fe}/\text{H}]$ and RV for each cluster, while columns 3 and 6 list the 1σ spread of each value. Columns 4 and 7 are the standard errors in the mean (σ_{μ}) of the estimates. N lists the number of true member stars for each cluster determined by the final application of the 2σ range to the mean of the Gaussian fits on $[\text{Fe}/\text{H}]$ and RV.

Table 3. Linear Regression on [Fe/H] Residuals

Cluster (1)	N (2)	Parameter (3)	X (4)	σ_X (5)	Y (6)	σ_Y (7)	R^2 (8)
NGC 5053	16	$(g-r)_0$	−0.585	0.164	+0.347	0.090	0.475
		S/N	−0.007	0.005	+0.333	0.182	0.133
M92	58	$(g-r)_0$	−0.347	0.145	+0.229	0.053	0.093
		S/N	−0.001	0.002	+0.135	0.051	0.004
M53	19	$(g-r)_0$	+0.166	0.138	+0.027	0.066	0.078
		S/N	−0.005	0.006	+0.192	0.132	0.048
M3	77	$(g-r)_0$	−0.219	0.056	+0.059	0.032	0.071
		S/N	+0.001	0.001	−0.085	0.044	0.022
M71	17	$(g-r)_0$	+0.017	0.177	+0.089	0.116	0.001
		S/N	−0.001	0.001	+0.140	0.078	0.018
NGC 2158	62	$(g-r)_0$	+0.017	0.047	−0.008	0.019	0.002
		S/N	+0.002	0.001	−0.099	0.036	0.110
M35	29	$(g-r)_0$	−0.289	0.062	+0.121	0.044	0.445
		S/N	+0.006	0.001	−0.451	0.084	0.468
NGC 6791	90	$(g-r)_0$	+0.276	0.077	−0.191	0.058	0.128
		S/N	+0.003	0.001	−0.110	0.040	0.103

Note. — The variables X and Y are the slope and zero-points, respectively, of a linear regression on the residuals in our measured [Fe/H] values and those adopted from the literature, along with the corresponding uncertainties from the regression. The parameter R^2 indicates the fraction of the variance accounted for by the correlations in the variables $(g-r)_0$ and S/N for each cluster.

Table 4. Comparison of Estimated Cluster Parameters by SSPP-7 and SSPP-P8

Cut	Cluster	$\langle[\text{Fe}/\text{H}]\rangle_7$	$\sigma([\text{Fe}/\text{H}])_7$ (dex)	$\langle\text{RV}\rangle_7$ (km s ⁻¹)	$\sigma(\text{RV})_7$ (km s ⁻¹)	N_7	$\langle[\text{Fe}/\text{H}]\rangle_{P8}$	$\sigma([\text{Fe}/\text{H}])_{P8}$ (dex)	$\langle\text{RV}\rangle_{P8}$ (km s ⁻¹)	$\sigma(\text{RV})_{P8}$ (km s ⁻¹)	N_{P8}	$[\text{Fe}/\text{H}]_{\text{H}}$	RV_{H} (km s ⁻¹)	$[\text{Fe}/\text{H}]_{\text{HR}}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
[Fe/H] & RV														
	M15	-2.19	0.17	-108.2	11.7	98	-2.31	0.21	-109.0	11.5	98	-2.26	-107.0	-2.33
	M2	-1.52	0.18	-2.1	9.8	76	-1.61	0.13	-2.2	10.3	71	-1.62	-5.3	-1.66
	M13	-1.59	0.13	-244.8	8.8	293	-1.63	0.13	-244.8	8.7	293	-1.54	-245.6	-1.58
	NGC 2420	-0.38	0.10	+75.1	5.9	163	-0.31	0.11	+75.0	5.9	164	...	+75.5	-0.37
	M67	-0.08	0.07	+34.9	4.1	52	-0.01	0.08	+35.0	3.4	75	...	+32.9	+0.05
RV														
	M15	-2.19	0.18	-108.4	12.2	110	-2.31	0.22	-108.5	11.4	1107	-2.26	-107.0	-2.33
	M2	-1.51	0.18	-1.8	10.3	82	-1.61	0.14	-2.0	10.7	82	-1.62	-5.3	-1.66
	M13	-1.59	0.13	-244.8	8.9	319	-1.63	0.14	-244.9	8.8	319	-1.54	-245.6	-1.58
	NGC 2420	-0.38	0.11	+75.1	6.0	171	-0.31	0.11	+75.1	6.0	172	...	+75.5	-0.37
	M67	-0.08	0.07	+34.8	5.8	56	-0.01	0.08	+34.9	5.5	78	...	+32.9	+0.05

Note. — Comparison of SSPP-estimated parameters from Paper II, which used the DR7 version of the SSPP (SSPP-7), with those produced by the pre-DR8 version (SSPP-P8). Columns 2-6 list parameters yielded by SSPP-7, and Columns 7-11 list parameters yielded by SSPP-P8. Columns 12-13 contain literature values from Harris (1996, Columns 12 and 13), while values from high-resolution spectroscopy reported by Carretta et al. (2009; M15, M13, and M2) and Randich et al. (2006; M67) are listed in Column 14. The value given in Column 14 for NGC 2420 (Anthony-Twarog et al. 2006) is derived from Stromgren photometry, not high-resolution spectroscopy, whereas H. Jacobson et al. (2010, in preparation) reports a metallicity result from high-resolution spectroscopy of -0.22 . Moderate improvement in the $[\text{Fe}/\text{H}]$ estimates is seen at both lower and higher metallicities. The upper section of the table contains estimates based on a final true member cut using both $[\text{Fe}/\text{H}]$ estimates as well as radial velocities, whereas the lower section contains estimates based on a final cut using radial velocities alone.

Table 5. Properties of Adopted True Member Stars

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log g	$\sigma_{\log g}$ (dex)	[Fe/H]	$\sigma_{[Fe/H]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle S/N \rangle$	Tag
NGC 5053																						
2476-53826-486	199.04518	17.60554	46.8	6.4	5287	101	1.99	0.47	-2.41	0.04	18.887	0.022	17.746	0.009	17.284	0.009	17.078	0.012	16.978	0.020	17.5	D
2476-53826-488	199.09269	17.69851	42.5	2.2	4951	87	2.00	0.21	-2.14	0.06	17.349	0.013	15.780	0.017	15.094	0.007	14.797	0.011	14.656	0.011	49.1	D
2476-53826-490	199.07441	17.62914	37.0	4.3	8452	171	3.08	0.28	-2.10	0.03	17.806	0.013	16.483	0.015	16.631	0.009	16.782	0.008	16.835	0.016	30.0	D
2476-53826-497	199.08809	17.59394	36.2	9.8	5397	87	2.46	0.10	-1.90	0.08	19.352	0.031	18.201	0.011	17.750	0.015	17.562	0.011	17.483	0.019	12.4	D
2476-53826-501	199.16802	17.67369	43.4	2.6	4973	52	2.11	0.25	-2.56	0.07	17.417	0.010	15.988	0.008	15.356	0.005	15.073	0.012	14.942	0.011	48.4	D
2476-53826-505	199.19265	17.70156	46.8	3.3	5353	63	1.93	0.28	-2.37	0.04	17.522	0.015	16.302	0.009	15.817	0.008	15.600	0.015	15.520	0.015	39.6	D
2476-53826-506	199.15790	17.64537	46.8	5.0	8072	116	3.51	0.23	-1.76	0.08	17.793	0.019	16.589	0.012	16.693	0.008	16.745	0.013	16.830	0.022	29.4	D
2476-53826-507	199.18189	17.62503	37.7	4.2	5126	65	1.97	0.20	-2.26	0.06	18.181	0.018	16.939	0.009	16.409	0.007	16.161	0.018	16.049	0.015	30.6	D
2476-53826-508	199.18986	17.64430	43.0	3.5	5125	61	2.20	0.16	-2.32	0.03	18.104	0.019	16.803	0.009	16.271	0.010	16.013	0.014	15.892	0.012	33.5	D
2476-53826-519	199.10217	17.66400	45.6	1.5	4965	35	1.65	0.17	-2.01	0.01	17.003	0.012	15.223	0.011	14.436	0.014	14.144	0.010	13.966	0.014	62.9	D
2476-53826-527	199.01911	17.78386	45.5	2.1	5001	76	1.99	0.21	-2.17	0.04	17.419	0.011	15.862	0.023	15.211	0.007	14.923	0.009	14.769	0.011	51.2	D
2476-53826-531	199.06474	17.76097	46.3	5.5	9199	222	3.41	0.11	-2.15	0.12	17.934	0.015	16.801	0.014	17.055	0.007	17.254	0.014	17.364	0.020	23.0	D
2476-53826-573	199.19611	17.80532	43.9	5.1	5267	91	1.68	0.25	-2.17	0.04	18.464	0.022	17.197	0.012	16.668	0.005	16.457	0.014	16.365	0.017	26.3	D
2476-53826-575	199.17000	17.79282	44.3	1.9	4855	82	2.06	0.28	-2.43	0.12	17.130	0.012	15.518	0.007	14.794	0.037	14.507	0.015	14.368	0.058	56.6	D
2476-53826-577	199.23569	17.75812	49.4	4.0	5150	46	2.15	0.26	-2.43	0.04	18.115	0.013	16.942	0.028	16.396	0.008	16.177	0.020	16.064	0.024	30.2	D
2476-53826-578	199.14256	17.73152	42.7	1.9	4921	91	2.16	0.37	-2.26	0.07	17.210	0.012	15.602	0.015	14.904	0.005	14.608	0.010	14.465	0.008	55.1	D
M92																						
2247-54169-361	259.05270	43.17390	-115.1	2.3	9037	218	3.18	0.03	-2.09	0.07	16.420	0.025	15.265	0.009	15.503	0.025	15.718	0.014	15.819	0.013	46.6	D
2247-54169-362	259.04869	43.06008	-113.8	4.6	5461	62	3.06	0.03	-2.09	0.03	18.388	0.024	17.343	0.011	16.902	0.014	16.730	0.013	16.679	0.015	25.0	C
2247-54169-364	259.08213	43.24025	-104.6	3.2	5391	53	3.27	0.30	-2.29	0.04	17.646	0.013	16.533	0.015	16.077	0.027	15.897	0.025	15.823	0.014	37.5	D
2247-54169-367	259.10185	43.19566	-112.0	3.5	5372	34	2.92	0.27	-2.13	0.05	17.645	0.010	16.519	0.009	16.080	0.016	15.877	0.015	15.783	0.013	36.8	D
2247-54169-379	259.22175	42.99835	-117.5	6.6	6474	70	3.56	0.04	-2.48	0.06	18.536	0.018	17.638	0.011	17.449	0.011	17.397	0.013	17.430	0.014	19.1	D
2247-54169-380	259.12453	43.10090	-109.5	3.1	5286	71	2.59	0.21	-2.34	0.07	17.282	0.021	16.093	0.010	15.609	0.011	15.389	0.017	15.289	0.017	38.8	D
2247-54169-404	259.14868	43.20253	-111.9	3.4	5364	68	2.28	0.12	-2.19	0.00	17.648	0.017	16.503	0.010	16.048	0.016	15.847	0.017	15.757	0.012	38.5	D
2247-54169-408	259.15160	43.11560	-120.0	2.5	5135	20	2.26	0.19	-2.42	0.04	16.637	0.016	15.333	0.010	14.812	0.009	14.589	0.017	14.471	0.015	49.8	D
2247-54169-409	259.18316	43.10430	-120.3	13.0	6301	147	3.97	0.54	-2.12	0.06	21.366	0.130	20.443	0.022	20.129	0.026	20.031	0.036	20.019	0.090	12.6	D
2247-54169-418	259.19255	43.08290	-119.6	2.2	5141	13	2.43	0.20	-2.19	0.03	16.771	0.010	15.524	0.008	14.997	0.009	14.780	0.012	14.679	0.010	49.1	D
2247-54169-444	259.17824	43.24650	-112.3	2.6	5311	63	2.35	0.09	-2.41	0.04	17.165	0.011	16.006	0.011	15.539	0.031	15.309	0.018	15.229	0.014	45.2	D
2247-54169-449	259.20122	43.17130	-116.5	2.6	5234	87	2.13	0.12	-2.26	0.04	16.792	0.007	15.490	0.006	15.011	0.021	14.736	0.010	14.643	0.014	48.3	D
2247-54169-451	259.26814	43.06960	-121.9	3.0	5355	32	2.83	0.26	-2.25	0.04	17.363	0.011	16.188	0.008	15.716	0.013	15.492	0.011	15.410	0.014	42.4	D
2247-54169-452	259.18977	43.22959	-121.4	2.9	5291	36	2.10	0.07	-2.38	0.03	17.203	0.011	15.985	0.009	15.505	0.018	15.273	0.012	15.188	0.011	44.3	D
2247-54169-458	259.20611	43.21507	-126.6	7.1	5734	56	2.99	0.18	-2.11	0.05	18.866	0.021	17.845	0.010	17.480	0.017	17.321	0.011	17.283	0.019	19.9	D
2247-54169-484	259.14905	42.94427	-115.0	2.1	5081	94	2.12	0.22	-2.43	0.04	16.464	0.018	15.117	0.011	14.516	0.015	14.272	0.015	14.143	0.016	51.4	C

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log g (dex)	$\sigma_{log g}$ (dex)	[Fe/H]	$\sigma_{[Fe/H]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle S/N \rangle$	Tag
2247-54169-504	259.34715	42.94880	-112.1	2.2	5124	37	2.11	0.19	-2.29	0.03	16.461	0.013	15.125	0.011	14.607	0.030	14.335	0.015	14.255	0.016	50.6	D
2247-54169-514	259.29469	42.90065	-111.3	5.7	5598	69	2.53	0.29	-2.38	0.06	18.694	0.019	17.645	0.021	17.273	0.017	17.117	0.017	17.072	0.021	23.1	D
2247-54169-516	259.32981	42.96344	-120.5	6.8	5742	23	2.20	0.56	-2.25	0.07	18.847	0.022	17.860	0.016	17.497	0.013	17.346	0.014	17.323	0.021	19.9	D
2247-54169-519	259.29888	42.91809	-120.6	6.3	5720	22	3.80	0.27	-2.23	0.01	18.793	0.025	17.809	0.018	17.430	0.014	17.257	0.017	17.205	0.018	18.6	D
2247-54169-529	259.24274	43.26023	-113.6	4.1	5445	15	3.24	0.23	-2.20	0.03	18.246	0.018	17.182	0.008	16.742	0.019	16.560	0.016	16.491	0.013	28.6	D
2247-54169-531	259.31297	43.26453	-115.2	3.0	5357	59	2.81	0.17	-2.22	0.04	17.650	0.010	16.488	0.007	16.045	0.005	15.842	0.007	15.730	0.007	38.4	D
2247-54169-538	259.34134	43.25804	-107.6	8.0	5899	88	2.69	0.53	-1.94	0.05	18.888	0.023	17.966	0.007	17.660	0.007	17.518	0.008	17.453	0.014	16.4	D
2247-54169-541	259.43884	43.03566	-129.2	6.2	5586	31	2.96	0.22	-2.03	0.04	18.758	0.032	17.691	0.009	17.304	0.013	17.146	0.016	17.124	0.023	21.5	D
2247-54169-546	259.35424	43.02288	-117.7	4.3	5446	57	2.78	0.24	-2.33	0.06	18.187	0.015	17.107	0.007	16.699	0.010	16.512	0.010	16.439	0.012	28.7	D
2247-54169-561	259.34981	43.12020	-114.2	3.2	5354	55	2.78	0.18	-2.32	0.04	17.658	0.014	16.490	0.010	16.011	0.009	15.812	0.014	15.726	0.016	37.7	D
2247-54169-563	259.32958	43.21520	-111.7	2.3	5212	26	2.44	0.23	-2.34	0.03	16.759	0.016	15.492	0.007	14.959	0.013	14.754	0.015	14.623	0.011	48.6	D
2247-54169-573	259.32140	43.07420	-116.3	3.2	5414	34	2.77	0.23	-2.28	0.04	17.098	0.010	16.016	0.013	15.569	0.009	15.375	0.010	15.290	0.011	43.7	D
2247-54169-575	259.38118	43.24689	-111.4	9.1	5765	111	3.85	0.43	-2.33	0.07	18.868	0.023	17.882	0.006	17.522	0.006	17.372	0.005	17.298	0.012	15.3	D
2247-54169-581	259.39378	43.07110	-110.5	3.3	5357	67	2.17	0.26	-2.29	0.03	17.578	0.018	16.373	0.007	15.916	0.012	15.704	0.010	15.607	0.014	37.5	D
2247-54169-582	259.43614	43.09974	-123.2	2.1	7700	138	3.42	0.30	-1.99	0.02	16.251	0.009	15.061	0.004	15.119	0.005	15.186	0.004	15.205	0.005	50.2	D
2247-54169-584	259.48440	43.05953	-103.4	6.4	5613	155	2.58	0.61	-2.39	0.05	18.768	0.021	17.789	0.006	17.422	0.006	17.251	0.006	17.155	0.015	18.9	D
2247-54169-589	259.43215	43.06340	-114.7	4.5	5343	78	2.17	0.29	-2.38	0.02	18.123	0.027	17.007	0.010	16.550	0.014	16.371	0.011	16.279	0.020	30.0	D
2247-54169-608	259.45984	43.22947	-120.3	2.4	5150	19	2.44	0.18	-2.20	0.04	16.631	0.007	15.383	0.003	14.852	0.006	14.612	0.004	14.483	0.007	48.2	D
2247-54169-610	259.51967	43.17119	-117.2	1.8	5109	47	2.15	0.13	-2.23	0.03	16.497	0.006	15.198	0.004	14.660	0.005	14.405	0.004	14.272	0.006	50.8	D
2247-54169-616	259.39054	43.18959	-115.4	6.2	5749	32	2.71	0.55	-1.99	0.06	18.879	0.026	17.890	0.008	17.524	0.005	17.369	0.008	17.293	0.012	19.9	D
2247-54169-620	259.43737	43.13558	-103.9	4.8	5584	76	3.01	0.28	-2.10	0.03	18.511	0.019	17.503	0.005	17.098	0.005	16.918	0.006	16.834	0.012	23.3	D
2256-53859-411	259.06782	43.11078	-120.3	8.0	6407	98	3.52	0.37	-2.31	0.01	19.329	0.034	18.413	0.012	18.173	0.015	18.119	0.015	18.131	0.023	14.8	C
2256-53859-455	259.11098	43.06094	-108.6	8.8	6584	113	3.72	0.54	-2.14	0.05	19.483	0.044	18.576	0.014	18.371	0.012	18.312	0.011	18.346	0.032	13.7	D
2256-53859-485	259.15452	42.99086	-109.5	15.9	6573	58	3.76	0.21	-1.95	0.05	19.940	0.051	19.103	0.018	18.912	0.018	18.874	0.016	18.855	0.042	10.2	D
2256-53859-489	259.20858	42.99146	-128.5	15.2	6623	29	3.58	0.08	-2.22	0.06	19.707	0.040	18.749	0.011	18.567	0.013	18.514	0.015	18.567	0.030	10.4	D
2256-53859-501	259.37101	43.02222	-109.5	9.6	6623	44	4.16	0.27	-2.58	0.01	19.581	0.037	18.751	0.010	18.562	0.013	18.496	0.014	18.533	0.030	13.0	D
2256-53859-506	259.31541	43.02145	-111.1	10.6	6686	84	3.65	0.35	-2.04	0.09	19.655	0.034	18.794	0.016	18.587	0.021	18.526	0.016	18.568	0.037	11.6	D
2256-53859-513	259.29469	42.90065	-118.0	5.3	5604	80	2.55	0.30	-2.32	0.03	18.694	0.019	17.645	0.021	17.273	0.017	17.117	0.017	17.072	0.021	25.4	D
2256-53859-522	259.21141	43.23125	-116.7	7.3	6047	76	3.00	0.41	-2.40	0.06	19.044	0.025	18.084	0.012	17.814	0.017	17.703	0.016	17.682	0.018	18.0	D
2256-53859-530	259.36776	43.25074	-124.9	10.1	6550	74	3.73	0.18	-2.22	0.07	19.559	0.041	18.682	0.008	18.482	0.010	18.426	0.009	18.407	0.031	13.4	D
2256-53859-535	259.31357	43.28081	-123.1	7.1	6412	51	3.94	0.54	-2.48	0.06	19.290	0.033	18.349	0.009	18.145	0.008	18.068	0.008	18.038	0.022	16.6	D
2256-53859-536	259.28945	43.28023	-127.9	6.3	6342	57	3.80	0.20	-2.17	0.09	19.267	0.033	18.395	0.013	18.170	0.018	18.096	0.020	18.060	0.026	18.9	D
2256-53859-537	259.42460	43.12058	-112.4	14.1	6149	107	3.67	0.12	-2.17	0.09	19.977	0.058	19.293	0.012	19.082	0.014	19.002	0.015	18.949	0.038	10.8	D
2256-53859-538	259.38004	43.21048	-120.7	5.5	5567	48	3.27	0.29	-2.34	0.04	18.751	0.022	17.762	0.006	17.376	0.006	17.214	0.007	17.144	0.012	24.7	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2256-53859-539	259.34059	43.24915	-113.1	11.4	6427	34	2.27	0.60	-2.49	0.01	19.607	0.039	18.874	0.009	18.664	0.011	18.546	0.013	18.492	0.027	11.9	D
2256-53859-546	259.48196	43.01234	-124.7	10.5	6647	45	4.02	0.24	-2.49	0.10	19.386	0.038	18.505	0.017	18.309	0.015	18.212	0.016	18.170	0.026	13.3	C
2256-53859-566	259.38565	43.03733	-115.0	11.2	6699	92	4.06	0.00	-2.05	0.06	19.714	0.031	18.824	0.012	18.593	0.015	18.546	0.015	18.592	0.033	12.2	D
2256-53859-571	259.45784	43.06219	-122.9	9.1	6528	61	3.81	0.40	-2.29	0.05	19.431	0.039	18.654	0.008	18.455	0.009	18.406	0.010	18.407	0.029	14.0	D
2256-53859-575	259.44647	43.32046	-100.6	8.8	6587	58	2.90	0.48	-2.49	0.05	19.464	0.034	18.591	0.009	18.429	0.008	18.371	0.010	18.381	0.030	12.7	D
2256-53859-576	259.43562	43.17233	-109.1	9.6	6633	65	3.80	0.34	-2.25	0.03	19.378	0.034	18.548	0.009	18.358	0.008	18.306	0.011	18.286	0.023	14.6	D
2256-53859-579	259.39772	43.05123	-112.4	10.8	6665	50	3.50	0.52	-2.33	0.07	19.787	0.045	18.810	0.014	18.600	0.013	18.544	0.011	18.557	0.030	12.0	D
2256-53859-612	259.48383	43.20252	-115.4	9.9	6654	58	4.03	0.26	-2.31	0.04	19.290	0.030	18.499	0.008	18.314	0.010	18.232	0.009	18.239	0.024	12.7	D
M15																						
1960-53289-401	322.4521790	12.338844	-108.2	2.6	5227	15	2.36	0.16	-2.34	0.05	17.228	0.019	16.078	0.008	15.593	0.008	15.374	0.012	15.268	0.012	55.9	D
1960-53289-402	322.4679565	12.327691	-107.0	2.4	5050	33	2.06	0.22	-2.31	0.04	16.719	0.015	15.391	0.008	14.839	0.010	14.584	0.011	14.469	0.015	62.2	D
1960-53289-406	322.4168396	12.266688	-101.3	2.3	5059	15	1.71	0.14	-2.36	0.02	16.692	0.013	15.393	0.007	14.841	0.006	14.594	0.007	14.490	0.015	65.1	D
1960-53289-413	322.4143066	12.305798	-103.8	3.0	5160	26	1.98	0.07	-2.44	0.02	16.892	0.012	15.687	0.007	15.179	0.008	14.945	0.009	14.839	0.016	57.6	D
1960-53289-419	322.4579773	12.303373	-111.0	2.1	5064	17	2.23	0.26	-2.39	0.02	16.707	0.016	15.433	0.008	14.891	0.011	14.646	0.008	14.537	0.013	65.1	D
1960-53289-420	322.6591187	12.145007	-92.5	13.9	5961	82	3.57	0.39	-2.25	0.06	19.269	0.043	18.421	0.011	18.059	0.009	17.981	0.015	17.950	0.029	15.0	C
1960-53289-441	322.5975342	12.257596	-114.5	6.0	5427	97	2.42	0.45	-2.75	0.02	18.500	0.030	17.582	0.011	17.183	0.024	17.033	0.012	16.958	0.021	23.7	D
1960-53289-442	322.5028076	12.375646	-119.5	3.5	5170	23	2.32	0.06	-2.33	0.03	17.458	0.018	16.342	0.008	15.855	0.010	15.659	0.014	15.556	0.016	46.8	D
1960-53289-457	322.5315247	12.312680	-113.7	9.1	5568	68	2.47	0.39	-2.27	0.06	18.870	0.038	17.913	0.011	17.541	0.011	17.363	0.013	17.268	0.020	20.3	D
1960-53289-459	322.7053528	12.125361	-105.5	1.9	5222	14	2.12	0.20	-2.38	0.03	16.273	0.021	15.076	0.009	14.561	0.006	14.346	0.013	14.241	0.015	68.2	C
1960-53289-460	322.7267761	12.119604	-101.3	3.4	5343	68	2.62	0.24	-2.39	0.03	17.490	0.023	16.431	0.009	15.966	0.006	15.778	0.013	15.671	0.016	47.8	C
1960-53289-500	322.4296570	12.004886	-106.9	4.5	5457	47	2.64	0.25	-2.29	0.03	18.164	0.023	17.169	0.012	16.719	0.011	16.540	0.012	16.503	0.019	35.4	C
1960-53289-501	322.5649414	11.992488	-83.7	10.5	5732	123	2.61	0.46	-2.23	0.04	19.244	0.036	18.283	0.011	17.885	0.011	17.716	0.011	17.652	0.022	16.5	C
1960-53289-511	322.5564575	12.010468	-112.2	4.0	5364	67	2.24	0.18	-2.40	0.04	17.721	0.020	16.568	0.009	16.059	0.009	15.872	0.009	15.772	0.014	43.5	C
1960-53289-522	322.6466675	12.302749	-110.3	5.0	5387	73	2.01	0.29	-2.46	0.06	17.954	0.022	16.909	0.011	16.493	0.009	16.307	0.011	16.221	0.015	33.6	C
1960-53289-523	322.5946350	12.299892	-104.6	1.7	4930	52	1.93	0.26	-2.27	0.06	16.146	0.016	14.624	0.009	13.981	0.010	13.757	0.004	13.560	0.014	70.7	C
1960-53289-529	322.5634155	12.329430	-103.0	2.4	5110	20	1.91	0.15	-2.27	0.04	16.778	0.018	15.513	0.010	14.992	0.006	14.754	0.015	14.651	0.012	63.7	D
1960-53289-530	322.5755615	12.443088	-112.9	4.9	5351	64	1.96	0.18	-2.60	0.16	18.471	0.035	17.485	0.015	17.040	0.016	16.859	0.012	16.783	0.020	29.2	D
1962-53321-323	322.3222656	12.281335	-100.7	6.9	6024	79	3.19	0.31	-2.31	0.08	19.270	0.042	18.400	0.016	18.131	0.014	18.012	0.016	17.973	0.041	22.7	D
1962-53321-328	322.3479919	12.310190	-103.7	9.3	6482	95	4.04	0.30	-2.07	0.08	19.531	0.052	18.655	0.014	18.450	0.015	18.387	0.014	18.373	0.038	17.4	D
1962-53321-329	322.4080811	12.358446	-102.9	6.7	6244	42	3.58	0.05	-1.95	0.06	19.408	0.044	18.522	0.011	18.253	0.013	18.160	0.013	18.168	0.037	20.0	D
1962-53321-335	322.3918152	12.275231	-124.6	7.4	5898	72	3.41	0.13	-2.42	0.10	19.364	0.043	18.411	0.014	18.110	0.013	18.008	0.014	17.925	0.034	22.7	D
1962-53321-339	322.3828125	12.291987	-111.7	11.9	6673	80	3.38	0.27	-1.88	0.03	19.929	0.063	19.041	0.019	18.903	0.014	18.831	0.020	18.856	0.064	12.7	D
1962-53321-363	322.5025635	12.258308	-107.3	14.4	6555	119	3.62	0.03	-1.88	0.05	20.107	0.085	19.252	0.021	19.041	0.020	18.955	0.024	18.865	0.064	12.5	D
1962-53321-364	322.4689941	12.278071	-108.2	3.3	5476	63	2.95	0.28	-2.60	0.06	18.660	0.032	17.583	0.014	17.191	0.009	17.016	0.012	16.937	0.020	40.4	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
1962-53321-368	322.5046692	12.286249	-105.5	8.2	6132	67	3.08	0.27	-2.06	0.05	19.440	0.048	18.553	0.014	18.326	0.014	18.256	0.016	18.214	0.032	20.6	D
1962-53321-369	322.4819946	12.320425	-119.4	7.1	6191	116	2.76	0.55	-1.82	0.07	19.431	0.044	18.589	0.016	18.348	0.016	18.251	0.015	18.211	0.041	18.5	D
1962-53321-370	322.4340820	12.294349	-118.6	7.1	6141	62	3.71	0.24	-2.35	0.02	19.329	0.048	18.453	0.015	18.174	0.011	18.080	0.017	18.058	0.039	21.8	D
1962-53321-371	322.4648743	12.303191	-131.7	6.7	6075	119	3.52	0.23	-1.97	0.04	19.446	0.043	18.507	0.017	18.253	0.013	18.136	0.016	18.084	0.028	20.6	D
1962-53321-372	322.4102173	12.272476	-123.1	7.2	5885	139	2.99	0.60	-2.25	0.05	19.296	0.046	18.371	0.012	18.086	0.011	17.956	0.012	17.927	0.032	23.8	D
1962-53321-375	322.4530640	12.260857	-106.7	4.2	5508	86	2.77	0.33	-2.41	0.12	18.807	0.036	17.758	0.008	17.365	0.010	17.208	0.011	17.149	0.022	31.6	D
1962-53321-376	322.4066772	12.290338	-108.3	3.3	5420	75	3.14	0.25	-2.35	0.04	18.521	0.029	17.515	0.009	17.119	0.012	16.938	0.010	16.858	0.020	41.5	D
1962-53321-378	322.4337463	12.256533	-123.5	12.8	6614	45	4.02	0.20	-2.39	0.03	19.945	0.057	19.052	0.016	18.861	0.019	18.800	0.021	18.830	0.049	13.8	D
1962-53321-399	322.2647400	12.088030	-128.7	9.4	6636	45	3.58	0.38	-2.76	0.06	19.711	0.060	18.831	0.017	18.635	0.019	18.648	0.020	18.559	0.044	16.7	C
1962-53321-402	322.5315247	12.312680	-103.5	3.9	5452	82	3.00	0.14	-2.44	0.06	18.870	0.038	17.913	0.011	17.541	0.011	17.363	0.013	17.268	0.020	33.3	D
1962-53321-403	322.5715332	12.283740	-114.7	4.5	5586	54	2.92	0.10	-2.08	0.05	18.913	0.038	17.887	0.011	17.504	0.011	17.343	0.012	17.277	0.023	31.8	D
1962-53321-406	322.5553284	12.353999	-104.2	4.7	5627	45	3.14	0.22	-2.19	0.07	18.929	0.038	17.944	0.014	17.561	0.010	17.405	0.012	17.339	0.023	32.1	D
1962-53321-407	322.5682373	12.340600	-105.2	7.7	6184	115	3.56	0.37	-2.20	0.00	19.343	0.053	18.444	0.013	18.218	0.015	18.122	0.018	18.106	0.038	20.4	D
1962-53321-409	322.5322266	12.338534	-112.9	14.0	6752	48	3.82	0.19	-1.86	0.07	20.065	0.072	19.145	0.015	18.991	0.018	18.995	0.026	18.863	0.064	11.5	D
1962-53321-412	322.5373535	12.294172	-114.9	10.6	6461	112	3.46	0.37	-2.27	0.08	19.790	0.060	18.872	0.016	18.698	0.016	18.639	0.018	18.588	0.046	14.5	D
1962-53321-413	322.4278564	12.366820	-110.2	3.2	5435	84	2.59	0.25	-2.34	0.05	18.649	0.032	17.556	0.011	17.172	0.012	16.966	0.023	16.902	0.020	40.6	D
1962-53321-414	322.5430603	12.254919	-88.0	6.5	5981	96	2.89	0.57	-2.04	0.06	19.336	0.049	18.472	0.017	18.197	0.015	18.084	0.019	18.055	0.041	21.6	D
1962-53321-415	322.4989014	12.316244	-106.0	3.5	5494	71	2.74	0.19	-2.19	0.02	18.443	0.020	17.419	0.014	17.025	0.010	16.879	0.013	16.788	0.016	42.8	D
1962-53321-416	322.5141602	12.304797	-119.8	11.2	6338	88	2.71	0.52	-2.30	0.05	19.987	0.068	19.081	0.018	18.921	0.020	18.868	0.024	18.803	0.053	13.1	D
1962-53321-419	322.5576782	12.301801	-130.4	11.3	6528	123	3.74	0.04	-1.96	0.09	20.169	0.107	19.268	0.017	19.087	0.018	19.005	0.025	19.220	0.075	11.7	D
1962-53321-421	322.3530884	12.238419	-117.9	5.1	5662	102	2.76	0.44	-2.43	0.04	19.266	0.051	18.371	0.015	18.033	0.011	17.891	0.015	17.848	0.033	24.6	D
1962-53321-422	322.3055115	12.095261	-126.1	10.2	6421	174	2.74	0.75	-2.11	0.08	19.850	0.066	19.094	0.021	18.866	0.023	18.836	0.025	18.764	0.052	13.8	C
1962-53321-423	322.3211060	12.217339	-114.5	5.1	5546	110	2.48	0.03	-2.32	0.01	19.203	0.039	18.205	0.013	17.842	0.011	17.684	0.013	17.599	0.024	26.7	C
1962-53321-424	322.2882080	12.088967	-117.2	7.9	6589	111	3.61	0.21	-2.37	0.02	19.619	0.056	18.952	0.018	18.782	0.019	18.783	0.021	18.854	0.055	13.9	C
1962-53321-427	322.3056030	12.249682	-112.0	3.9	5453	94	2.46	0.28	-2.48	0.06	18.649	0.029	17.643	0.013	17.249	0.010	17.089	0.012	16.993	0.020	38.5	C
1962-53321-428	322.3019104	12.225344	-125.4	9.8	6560	97	3.85	0.29	-2.16	0.08	19.856	0.061	18.951	0.015	18.786	0.014	18.695	0.018	18.695	0.047	14.5	C
1962-53321-430	322.3014832	12.204044	-95.6	9.5	6419	241	3.09	0.91	-2.27	0.10	20.210	0.082	19.211	0.019	19.007	0.020	18.904	0.022	18.850	0.056	12.5	C
1962-53321-438	322.3101501	12.185511	-111.9	3.2	5309	80	2.73	0.17	-2.46	0.01	18.569	0.028	17.546	0.015	17.124	0.016	16.890	0.015	16.810	0.020	42.2	C
1962-53321-442	322.6037598	12.366948	-103.6	8.4	6275	122	3.16	0.50	-2.39	0.15	19.546	0.057	18.727	0.015	18.549	0.021	18.482	0.023	18.486	0.045	17.1	D
1962-53321-445	322.6427917	12.275240	-93.9	12.4	6515	112	3.72	0.18	-1.88	0.18	20.064	0.074	19.341	0.017	19.193	0.017	19.100	0.023	19.102	0.064	10.3	C
1962-53321-449	322.6358032	12.290989	-131.8	13.9	6313	165	2.99	0.70	-2.16	0.05	20.178	0.081	19.374	0.023	19.178	0.018	19.172	0.027	19.155	0.070	10.5	D
1962-53321-454	322.5975342	12.257596	-116.1	4.0	5452	75	2.00	0.35	-2.37	0.05	18.500	0.030	17.582	0.011	17.183	0.024	17.033	0.012	16.958	0.021	37.8	D
1962-53321-460	322.6270447	12.246479	-117.9	14.5	6459	72	3.73	0.20	-2.20	0.01	20.191	0.094	19.363	0.026	19.139	0.030	19.063	0.020	19.128	0.063	11.4	D
1962-53321-465	322.3361511	12.095001	-132.0	9.4	6662	11	3.48	0.23	-2.37	0.06	19.606	0.062	18.942	0.015	18.797	0.017	18.765	0.020	18.704	0.044	15.6	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log <i>g</i> (dex)	$\sigma_{log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[Fe/H]}$ (dex)	<i>u</i>	σ_u	<i>g</i>	σ_g	<i>r</i>	σ_r	<i>i</i>	σ_i	<i>z</i>	σ_z	$\langle S/N \rangle$	Tag
1962-53321-466	322.3733521	12.240548	-115.5	3.5	5356	80	3.04	0.31	-2.72	0.04	18.510	0.024	17.520	0.010	17.104	0.010	16.939	0.009	16.865	0.019	45.1	D
1962-53321-469	322.4008179	12.225221	-132.4	8.2	6200	152	3.20	0.32	-2.52	0.05	19.389	0.061	18.634	0.013	18.445	0.013	18.395	0.017	18.382	0.046	20.9	D
1962-53321-470	322.3207092	12.106877	-119.2	6.2	6432	77	3.86	0.22	-2.05	0.05	19.369	0.047	18.633	0.017	18.398	0.018	18.342	0.018	18.327	0.036	22.2	C
1962-53321-471	322.4016724	12.009658	-102.7	8.0	6515	64	3.90	0.21	-2.21	0.06	19.572	0.051	18.829	0.013	18.676	0.017	18.598	0.017	18.626	0.042	18.5	D
1962-53321-474	322.3290100	12.039521	-111.8	3.2	5425	79	2.77	0.21	-2.62	0.09	18.388	0.027	17.449	0.015	17.058	0.016	16.905	0.015	16.826	0.020	44.6	C
1962-53321-478	322.3526611	12.008277	-126.3	12.8	6108	163	2.90	0.67	-2.41	0.07	20.677	0.162	19.724	0.024	19.500	0.020	19.367	0.031	19.303	0.086	10.3	D
1962-53321-480	322.3417664	12.023521	-113.7	8.4	6242	138	3.06	0.52	-2.09	0.06	19.802	0.067	18.991	0.018	18.780	0.019	18.701	0.020	18.807	0.053	17.2	C
1962-53321-483	322.4589844	11.991854	-83.6	11.9	6743	90	3.19	0.80	-1.87	0.05	20.027	0.063	19.211	0.016	19.005	0.016	18.957	0.021	18.938	0.050	12.5	C
1962-53321-484	322.5236511	12.006750	-100.6	9.2	6618	31	3.80	0.02	-2.01	0.10	19.975	0.060	19.188	0.016	18.978	0.018	18.928	0.023	18.836	0.048	14.6	C
1962-53321-488	322.4795532	12.013686	-100.9	7.9	6439	85	3.78	0.15	-2.08	0.07	19.511	0.050	18.642	0.020	18.359	0.019	18.347	0.024	18.368	0.041	18.1	C
1962-53321-490	322.4822083	11.986870	-111.2	8.7	6458	45	3.92	0.31	-2.62	0.07	19.685	0.049	18.893	0.015	18.635	0.014	18.536	0.017	18.559	0.039	17.3	C
1962-53321-493	322.5000610	11.843804	-107.2	5.6	5749	77	2.88	0.28	-2.35	0.03	19.199	0.035	18.324	0.013	17.957	0.012	17.810	0.013	17.770	0.025	27.8	C
1962-53321-495	322.4521179	11.955274	-95.0	7.6	6463	70	3.65	0.34	-1.79	0.04	19.590	0.047	18.787	0.015	18.533	0.014	18.443	0.016	18.466	0.037	19.1	C
1962-53321-496	322.4375000	11.972004	-83.5	7.7	6514	41	3.97	0.08	-2.19	0.04	19.518	0.045	18.773	0.015	18.536	0.014	18.461	0.016	18.509	0.038	19.1	C
1962-53321-497	322.4447021	12.011971	-114.3	8.5	6443	77	4.12	0.24	-2.39	0.03	19.675	0.049	18.769	0.015	18.588	0.015	18.538	0.017	18.552	0.036	18.2	D
1962-53321-500	322.4923096	11.963464	-111.3	6.2	6286	42	4.32	0.15	-2.39	0.04	19.216	0.036	18.396	0.013	18.140	0.012	18.047	0.014	18.060	0.029	25.9	C
1962-53321-503	322.6179810	11.996145	-97.4	8.2	6715	77	3.72	0.36	-2.18	0.06	19.756	0.050	18.961	0.014	18.764	0.014	18.721	0.017	18.765	0.044	16.3	C
1962-53321-505	322.6524048	12.082651	-106.0	14.0	6450	205	3.87	0.06	-2.65	0.09	20.398	0.112	19.488	0.016	19.327	0.021	19.290	0.026	19.316	0.076	11.4	D
1962-53321-506	322.6019592	12.044020	-99.7	2.9	5420	60	2.74	0.12	-2.43	0.06	18.395	0.029	17.378	0.009	16.962	0.009	16.758	0.014	16.667	0.013	46.3	D
1962-53321-509	322.6124878	12.028808	-104.7	10.2	6584	101	4.07	0.29	-2.06	0.02	19.962	0.057	19.260	0.015	19.006	0.015	18.974	0.019	18.948	0.051	13.0	C
1962-53321-510	322.6307373	12.017861	-91.9	7.2	6155	57	3.44	0.45	-2.25	0.03	19.520	0.043	18.529	0.012	18.238	0.011	18.144	0.013	18.102	0.028	23.2	C
1962-53321-512	322.5454712	12.024155	-94.7	14.7	6286	101	3.17	0.50	-2.09	0.07	20.338	0.077	19.508	0.017	19.260	0.017	19.248	0.023	19.225	0.063	11.2	C
1962-53321-515	322.5826111	11.990081	-104.6	2.8	5466	55	2.74	0.13	-2.53	0.05	18.529	0.026	17.568	0.010	17.125	0.010	16.929	0.010	16.839	0.016	42.9	C
1962-53321-516	322.5649414	11.992488	-97.5	5.3	5712	44	3.19	0.31	-2.41	0.06	19.244	0.036	18.283	0.011	17.885	0.011	17.716	0.011	17.652	0.022	28.1	C
1962-53321-518	322.6694946	12.089317	-95.5	4.8	5695	59	3.22	0.27	-2.54	0.06	19.113	0.039	18.253	0.011	17.892	0.008	17.763	0.015	17.724	0.025	30.0	C
1962-53321-519	322.5717163	12.034966	-94.5	8.8	6693	51	3.68	0.03	-2.26	0.03	19.883	0.059	19.058	0.016	18.896	0.016	18.858	0.022	18.841	0.054	15.7	D
1962-53321-520	322.5625916	12.011796	-108.2	5.8	6234	51	3.47	0.33	-2.44	0.05	19.482	0.042	18.619	0.013	18.343	0.083	18.261	0.014	18.219	0.030	23.1	C
1962-53321-522	322.6928101	12.298704	-120.6	12.7	6638	92	3.79	0.04	-2.09	0.03	19.946	0.067	19.128	0.016	18.973	0.015	18.953	0.021	18.868	0.053	11.9	C
1962-53321-532	322.6614685	12.270009	-113.4	3.4	5471	81	2.39	0.11	-2.42	0.01	18.485	0.027	17.487	0.012	17.105	0.010	16.935	0.012	16.828	0.017	43.6	C
1962-53321-533	322.6655579	12.248962	-106.2	7.2	6273	54	3.28	0.38	-2.25	0.11	19.484	0.053	18.638	0.012	18.363	0.010	18.317	0.017	18.369	0.038	21.0	C
1962-53321-539	322.7539978	12.195694	-89.6	8.8	6595	41	4.01	0.23	-2.24	0.05	19.750	0.061	18.815	0.013	18.621	0.011	18.574	0.018	18.508	0.040	19.5	C
1962-53321-540	322.6919556	12.215733	-88.6	12.0	6420	148	3.37	0.33	-2.48	0.08	20.279	0.091	19.401	0.016	19.207	0.016	19.165	0.024	19.160	0.069	12.4	C
1962-53321-543	322.6426392	12.200052	-103.6	9.1	6434	123	3.55	0.29	-2.70	0.10	19.782	0.059	18.916	0.013	18.642	0.012	18.612	0.018	18.695	0.049	16.6	C
1962-53321-545	322.6738586	12.167021	-110.0	8.3	6688	209	3.75	0.42	-2.59	0.09	19.868	0.065	19.107	0.014	18.808	0.012	18.815	0.019	18.836	0.053	14.0	C

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[Fe/H]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle S/N \rangle$	Tag
1962-53321-549	322.6310120	12.212295	-119.3	5.6	5904	70	3.36	0.30	-2.51	0.04	19.235	0.037	18.326	0.028	18.030	0.026	17.878	0.010	17.778	0.026	23.9	D
1962-53321-550	322.6591187	12.145007	-105.4	6.3	5890	56	2.99	0.18	-2.26	0.01	19.269	0.043	18.421	0.011	18.059	0.009	17.981	0.015	17.950	0.029	24.2	C
1962-53321-554	322.7246094	12.159374	-102.1	11.9	6825	221	3.75	0.03	-2.38	0.07	20.191	0.083	19.385	0.016	19.211	0.015	19.149	0.023	19.090	0.064	11.9	C
1962-53321-555	322.6697388	12.106344	-105.5	12.9	6495	95	3.63	0.20	-2.21	0.09	20.361	0.090	19.532	0.017	19.274	0.016	19.276	0.025	19.398	0.083	10.7	C
1962-53321-558	322.6465759	12.128071	-108.9	5.6	5925	75	3.97	0.26	-2.32	0.03	19.248	0.040	18.344	0.010	18.055	0.016	17.925	0.018	17.912	0.029	25.2	D
M53																						
2476-53826-329	198.08194	18.01885	-74.3	7.0	5189	193	2.42	0.38	-1.87	0.10	19.252	0.039	17.999	0.027	17.496	0.018	17.318	0.013	17.181	0.026	12.8	C
2476-53826-361	198.27909	18.09230	-59.4	4.0	5006	108	2.25	0.19	-1.94	0.09	18.269	0.035	16.908	0.018	16.270	0.022	16.061	0.015	15.912	0.019	26.1	C
2476-53826-362	198.14897	18.08892	-56.1	6.5	6943	154	2.65	0.32	-1.93	0.11	17.904	0.024	16.733	0.026	16.695	0.018	16.698	0.012	16.725	0.025	18.6	C
2476-53826-363	198.21748	18.06588	-58.2	7.6	8820	130	3.48	0.11	-1.92	0.07	18.093	0.035	17.029	0.018	17.209	0.022	17.425	0.015	17.533	0.023	17.1	C
2476-53826-369	198.17940	18.06809	-66.6	7.2	9007	142	3.58	0.23	-1.90	0.04	18.084	0.035	17.048	0.018	17.257	0.022	17.455	0.015	17.564	0.024	18.6	C
2476-53826-372	198.23916	18.03263	-53.5	5.1	5235	64	2.57	0.32	-2.16	0.04	18.082	0.034	16.868	0.018	16.322	0.022	16.152	0.015	16.021	0.019	25.8	C
2476-53826-375	198.27524	17.94161	-71.0	6.9	4997	82	1.97	0.23	-1.88	0.04	18.504	0.037	17.094	0.018	16.550	0.022	16.344	0.015	16.190	0.019	17.7	C
2476-53826-376	198.15708	18.05392	-48.9	8.7	9237	313	3.21	0.29	-1.78	0.08	18.136	0.035	17.234	0.018	17.489	0.022	17.732	0.016	17.827	0.026	15.7	C
2476-53826-378	198.19809	18.07094	-54.5	3.0	5069	70	1.76	0.17	-2.07	0.03	17.589	0.033	16.225	0.018	15.607	0.022	15.377	0.015	15.249	0.019	36.9	C
2476-53826-379	198.28341	17.88147	-57.5	7.9	9162	301	3.35	0.45	-2.10	0.01	18.129	0.025	17.160	0.025	17.445	0.018	17.642	0.025	17.799	0.024	16.6	C
2476-53826-401	198.40054	18.20061	-67.5	5.2	5140	23	2.51	0.17	-1.89	0.06	18.768	0.028	17.438	0.017	16.907	0.012	16.670	0.015	16.570	0.020	20.4	C
2476-53826-404	198.29193	18.10423	-64.0	2.0	4849	89	1.94	0.22	-2.00	0.04	17.501	0.033	15.836	0.018	15.087	0.022	14.831	0.015	14.665	0.018	47.5	C
2476-53826-405	198.43153	18.20371	-45.9	9.2	5297	19	3.11	0.43	-1.88	0.10	19.218	0.033	18.055	0.017	17.561	0.013	17.344	0.015	17.259	0.022	12.1	C
2476-53826-408	198.35774	18.13509	-69.5	6.9	8773	96	3.53	0.10	-1.86	0.12	18.090	0.024	16.925	0.016	17.108	0.012	17.269	0.015	17.410	0.023	19.3	C
2476-53826-409	198.35615	18.21558	-56.8	4.9	5133	112	2.22	0.35	-2.12	0.01	18.679	0.027	17.321	0.017	16.813	0.012	16.586	0.015	16.466	0.020	20.6	C
2476-53826-413	198.34337	18.12375	-69.7	7.5	5363	141	2.94	0.35	-1.82	0.05	19.025	0.030	17.791	0.017	17.256	0.012	17.034	0.015	16.942	0.021	15.5	C
2476-53826-418	198.39045	18.17497	-51.2	8.4	5511	59	2.04	0.33	-1.95	0.10	19.327	0.034	18.063	0.017	17.559	0.013	17.344	0.015	17.272	0.022	11.8	C
2476-53826-451	198.48345	18.06427	-65.0	3.4	4989	40	2.07	0.16	-1.89	0.05	18.175	0.029	16.775	0.019	16.173	0.021	15.932	0.017	15.786	0.022	30.0	C
2476-53826-452	198.48341	18.25271	-63.8	5.9	5181	64	1.95	0.26	-2.14	0.09	18.600	0.026	17.369	0.017	16.866	0.012	16.626	0.015	16.463	0.020	20.3	C
M2																						
1961-53299-124	323.2988892	-0.926583	-8.8	1.5	5063	60	2.38	0.01	-1.63	0.13	17.533	0.014	16.087	0.020	15.489	0.009	15.219	0.040	15.106	0.019	51.9	D
1961-53299-125	323.3046265	-0.900651	-1.4	1.6	5066	54	2.28	0.10	-1.56	0.06	17.543	0.014	15.997	0.006	15.405	0.008	15.160	0.016	15.041	0.007	52.6	D
1961-53299-131	323.4663696	-0.819519	6.5	1.9	5160	46	2.57	0.19	-1.58	0.02	18.042	0.016	16.680	0.008	16.125	0.009	15.911	0.008	15.804	0.021	43.6	D
1961-53299-134	323.4247131	-0.804700	-2.2	1.1	4937	72	2.00	0.09	-1.47	0.09	16.957	0.018	15.105	0.015	14.404	0.012	14.100	0.017	13.935	0.027	60.8	D
1961-53299-136	323.2869568	-0.885027	8.1	2.4	5165	4	2.72	0.06	-1.59	0.05	18.214	0.017	16.913	0.011	16.384	0.012	16.180	0.030	16.060	0.010	39.1	D
1961-53299-140	323.3161316	-0.936875	-5.0	2.9	5312	43	2.73	0.10	-1.61	0.05	18.555	0.019	17.276	0.019	16.805	0.015	16.574	0.024	16.519	0.017	34.1	D
1961-53299-144	323.4824524	-0.780800	6.8	2.7	5293	69	2.48	0.28	-1.64	0.05	18.300	0.015	16.940	0.008	16.470	0.013	16.235	0.014	16.155	0.016	37.5	D
1961-53299-152	323.5119629	-0.501376	3.4	2.0	5150	51	2.18	0.04	-1.76	0.04	17.982	0.023	16.618	0.022	16.048	0.013	15.829	0.014	15.707	0.016	44.1	C

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[Fe/H]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle S/N \rangle$	Tag
1961-53299-159	323.5318298	-0.781852	3.1	2.4	5178	2	2.55	0.20	-1.72	0.06	18.211	0.022	16.866	0.009	16.374	0.007	16.155	0.010	16.068	0.021	39.5	D
1961-53299-194	323.1741943	-0.712977	-6.8	2.4	8973	197	3.22	0.13	-1.62	0.01	17.138	0.011	15.907	0.024	16.134	0.017	16.331	0.011	16.415	0.017	46.0	D
1961-53299-213	323.2510986	-0.805550	-6.4	3.3	5226	114	2.00	0.36	-1.81	0.06	18.553	0.022	17.182	0.008	16.715	0.007	16.497	0.012	16.431	0.018	33.2	D
1961-53299-215	323.2557068	-0.864036	3.6	2.0	5076	92	2.20	0.16	-1.84	0.01	17.780	0.014	16.353	0.009	15.772	0.007	15.544	0.021	15.414	0.011	48.2	D
1963-54331-041	323.5323486	-0.898565	-4.0	16.4	6214	77	3.34	0.39	-1.34	0.11	20.314	0.059	19.492	0.028	19.246	0.014	19.188	0.021	19.164	0.052	10.5	C
1963-54331-043	323.5525513	-0.890733	8.6	5.9	5594	58	3.13	0.23	-1.52	0.03	19.849	0.044	18.766	0.027	18.372	0.010	18.190	0.017	18.066	0.024	19.6	C
1963-54331-045	323.5656433	-0.907277	12.1	12.8	6325	25	2.84	0.26	-1.31	0.05	20.220	0.075	19.350	0.027	19.136	0.013	19.005	0.020	18.984	0.045	11.2	C
1963-54331-082	323.5061035	-0.865724	-22.2	15.6	6002	179	2.55	0.63	-1.68	0.07	20.429	0.067	19.536	0.028	19.265	0.014	19.236	0.021	19.184	0.053	10.8	C
1963-54331-083	323.5080261	-0.824424	-9.3	8.6	5612	65	2.97	0.32	-1.66	0.04	19.975	0.064	18.907	0.015	18.565	0.019	18.456	0.017	18.380	0.035	17.1	D
1963-54331-090	323.4566040	-0.765115	-8.8	5.9	5721	63	3.56	0.09	-1.66	0.06	19.939	0.057	18.869	0.014	18.515	0.015	18.356	0.018	18.324	0.037	18.6	D
1963-54331-091	323.4995117	-0.948989	9.6	4.1	5396	53	3.33	0.15	-1.64	0.05	19.561	0.037	18.520	0.026	18.024	0.010	17.848	0.017	17.810	0.022	23.5	C
1963-54331-096	323.4652710	-0.816831	-6.5	6.9	5914	41	3.47	0.22	-1.52	0.01	19.961	0.050	18.954	0.013	18.628	0.017	18.527	0.019	18.466	0.039	16.6	D
1963-54331-098	323.4837952	-0.832883	-5.1	2.6	5291	29	2.60	0.18	-1.75	0.03	18.831	0.027	17.576	0.015	17.081	0.040	16.873	0.056	16.779	0.017	40.5	D
1963-54331-100	323.4888306	-0.866385	-10.0	6.8	5928	91	3.78	0.13	-1.55	0.06	19.939	0.056	18.929	0.012	18.589	0.024	18.485	0.027	18.378	0.040	16.8	D
1963-54331-102	323.5220337	-0.778994	-11.4	9.4	6062	62	3.35	0.20	-1.60	0.08	19.885	0.057	18.951	0.017	18.657	0.017	18.571	0.020	18.511	0.032	15.4	D
1963-54331-114	323.5265503	-0.677912	1.4	9.2	6287	40	3.48	0.36	-1.88	0.04	20.023	0.054	19.245	0.019	19.001	0.015	18.929	0.033	18.951	0.052	13.0	D
1963-54331-121	323.2814026	-0.907666	0.5	2.5	5356	44	2.98	0.09	-1.61	0.04	18.788	0.024	17.536	0.013	17.049	0.016	16.858	0.015	16.747	0.018	40.3	D
1963-54331-123	323.3062134	-0.993524	1.9	5.2	5480	56	2.93	0.19	-1.56	0.02	19.874	0.040	18.695	0.009	18.280	0.019	18.114	0.018	18.029	0.024	20.4	D
1963-54331-124	323.2615051	-0.910594	-4.3	9.0	6127	74	3.05	0.42	-1.78	0.04	20.001	0.036	19.069	0.016	18.806	0.028	18.736	0.020	18.810	0.049	14.9	D
1963-54331-126	323.3119507	-0.933239	-1.8	3.8	5498	82	3.29	0.16	-1.49	0.03	19.405	0.028	18.287	0.023	17.836	0.019	17.645	0.018	17.582	0.023	27.1	D
1963-54331-128	323.2590942	-0.836635	-8.3	3.6	5412	57	3.27	0.10	-1.45	0.04	19.470	0.032	18.253	0.022	17.783	0.026	17.612	0.015	17.487	0.019	27.7	D
1963-54331-131	323.3119507	-0.911349	-1.7	3.7	5330	58	2.68	0.06	-1.65	0.04	19.359	0.028	18.210	0.012	17.753	0.014	17.569	0.019	17.492	0.021	28.2	D
1963-54331-137	323.3194885	-0.976572	-2.3	3.0	5389	42	3.19	0.07	-1.54	0.03	19.067	0.024	17.895	0.008	17.420	0.019	17.236	0.016	17.177	0.018	33.4	D
1963-54331-139	323.2646790	-0.864309	-5.7	3.2	5328	18	3.32	0.14	-1.61	0.04	19.056	0.029	17.919	0.008	17.436	0.013	17.254	0.015	17.163	0.018	33.8	D
1963-54331-143	323.4908142	-0.783230	2.3	6.1	5734	60	3.72	0.35	-1.46	0.06	19.885	0.055	18.808	0.016	18.456	0.018	18.302	0.018	18.266	0.028	19.0	D
1963-54331-144	323.4483032	-0.729351	-0.4	2.3	5341	11	3.04	0.10	-1.53	0.05	18.892	0.023	17.663	0.016	17.192	0.019	17.008	0.019	16.878	0.017	38.8	D
1963-54331-145	323.4632263	-0.724424	0.6	6.2	5761	26	4.05	0.39	-1.52	0.09	19.866	0.047	18.911	0.015	18.536	0.014	18.394	0.018	18.276	0.035	17.6	D
1963-54331-146	323.4815979	-0.809713	5.4	10.3	6374	126	4.20	0.15	-1.60	0.04	20.231	0.077	19.186	0.013	18.955	0.019	18.876	0.025	18.850	0.054	13.4	D
1963-54331-147	323.4628601	-0.750568	-23.8	11.1	6287	132	3.62	0.30	-1.54	0.03	20.105	0.069	19.252	0.017	19.041	0.018	18.992	0.024	18.934	0.053	13.5	D
1963-54331-148	323.4973755	-0.808784	-8.1	7.4	5725	61	3.50	0.05	-1.67	0.03	19.890	0.064	18.896	0.014	18.516	0.016	18.373	0.020	18.355	0.045	17.8	D
1963-54331-150	323.4602051	-0.679670	-6.4	7.7	5884	61	3.95	0.27	-1.61	0.04	19.881	0.046	18.980	0.015	18.678	0.016	18.574	0.015	18.492	0.041	16.9	D
1963-54331-154	323.4409485	-0.625550	10.4	10.9	6411	58	3.96	0.24	-1.47	0.09	20.492	0.082	19.588	0.023	19.364	0.024	19.316	0.028	19.313	0.083	10.5	D
1963-54331-156	323.4447327	-0.651404	-3.2	9.8	6456	105	3.40	0.33	-1.59	0.06	20.465	0.096	19.443	0.020	19.232	0.019	19.189	0.034	19.218	0.065	11.6	D
1963-54331-162	323.2671814	-0.670811	4.1	12.3	6257	96	3.62	0.20	-1.81	0.00	20.546	0.080	19.585	0.022	19.385	0.028	19.291	0.022	19.255	0.058	10.7	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[Fe/H]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle S/N \rangle$	Tag
1963-54331-164	323.4361267	-0.765563	2.1	3.6	5404	119	2.96	0.14	-1.58	0.09	19.624	0.050	18.434	0.022	18.000	0.018	17.845	0.016	17.738	0.025	26.7	D
1963-54331-169	323.4208374	-0.698915	17.7	10.6	6141	112	2.18	0.70	-1.68	0.04	20.482	0.073	19.599	0.018	19.366	0.043	19.286	0.030	19.315	0.072	10.7	D
1963-54331-170	323.4298401	-0.733806	-10.4	10.8	6427	209	3.74	0.37	-1.34	0.02	20.430	0.064	19.483	0.017	19.317	0.020	19.244	0.022	19.261	0.055	11.6	D
1963-54331-178	323.4222717	-0.635959	-8.8	4.0	5310	5	3.17	0.19	-1.69	0.06	19.588	0.038	18.477	0.016	18.054	0.014	17.891	0.015	17.836	0.023	25.0	D
1963-54331-179	323.2658691	-0.708226	11.0	9.2	6335	60	3.06	0.64	-1.67	0.04	20.041	0.058	19.219	0.016	18.985	0.019	18.919	0.019	18.931	0.057	14.0	D
1963-54331-180	323.4226990	-0.714586	-1.9	4.8	5507	52	3.42	0.03	-1.68	0.05	19.789	0.047	18.721	0.013	18.306	0.021	18.182	0.016	18.023	0.023	22.0	D
1963-54331-181	323.2662964	-0.726436	0.2	8.5	6411	58	3.68	0.27	-1.33	0.04	20.111	0.061	19.174	0.015	18.973	0.023	18.885	0.025	18.866	0.054	14.6	D
1963-54331-184	323.2333374	-0.738061	-4.8	4.5	5592	67	3.30	0.13	-1.76	0.06	19.721	0.041	18.640	0.012	18.226	0.014	18.052	0.020	17.979	0.017	22.3	D
1963-54331-185	323.2148438	-0.726361	-3.7	11.6	6453	96	3.47	0.35	-1.74	0.10	20.309	0.062	19.507	0.018	19.306	0.024	19.239	0.029	19.220	0.064	10.9	D
1963-54331-186	323.2448730	-0.776209	-23.0	13.8	6325	155	3.08	0.31	-1.86	0.18	20.556	0.087	19.654	0.022	19.466	0.020	19.370	0.029	19.376	0.060	10.3	D
1963-54331-189	323.2506104	-0.651933	11.0	9.3	6381	81	3.24	0.28	-1.48	0.04	20.213	0.061	19.273	0.017	19.058	0.017	18.997	0.023	19.116	0.056	12.7	D
1963-54331-194	323.2321777	-0.758979	-3.5	8.7	6283	55	3.43	0.28	-1.61	0.04	20.088	0.066	19.216	0.015	18.944	0.021	18.878	0.023	18.853	0.053	14.3	D
1963-54331-196	323.2610779	-0.770765	-10.8	9.8	6284	107	3.84	0.21	-1.69	0.03	20.132	0.055	19.245	0.015	19.088	0.023	18.962	0.023	18.879	0.057	13.3	D
1963-54331-197	323.1915894	-0.710805	-14.1	10.5	6388	130	3.00	0.75	-1.63	0.09	20.376	0.076	19.581	0.019	19.378	0.022	19.280	0.025	19.316	0.067	10.7	D
1963-54331-200	323.2678223	-0.754401	-10.4	12.8	6448	93	3.46	0.42	-1.61	0.05	20.545	0.102	19.563	0.020	19.342	0.019	19.267	0.026	19.243	0.058	10.8	D
1963-54331-201	323.2361145	-0.796597	-16.9	5.0	5586	41	3.20	0.13	-1.46	0.05	19.823	0.055	18.658	0.011	18.268	0.020	18.123	0.017	18.004	0.026	22.3	D
1963-54331-204	323.2236633	-0.962825	-0.9	2.7	5351	58	2.96	0.08	-1.58	0.05	19.145	0.028	17.953	0.011	17.465	0.014	17.284	0.026	17.192	0.020	34.2	D
1963-54331-206	323.2539062	-0.973936	-17.2	11.6	6339	62	3.56	0.29	-1.49	0.06	20.172	0.054	19.258	0.012	19.040	0.020	18.979	0.025	19.022	0.048	12.6	D
1963-54331-207	323.2109985	-0.851545	15.2	11.6	6582	116	4.08	0.24	-1.54	0.02	20.443	0.069	19.495	0.015	19.265	0.024	19.181	0.027	19.151	0.051	10.8	D
1963-54331-208	323.2533569	-0.887787	-5.2	2.8	5337	22	2.95	0.13	-1.68	0.05	18.956	0.027	17.815	0.009	17.354	0.017	17.150	0.021	17.053	0.015	36.5	D
1963-54331-209	323.2061462	-0.803604	5.0	4.0	5476	28	3.33	0.12	-1.60	0.01	19.458	0.040	18.339	0.012	17.927	0.013	17.713	0.017	17.675	0.023	27.6	D
1963-54331-211	323.2515259	-0.853978	-11.8	4.1	5373	32	3.14	0.17	-1.55	0.02	19.505	0.041	18.346	0.011	17.883	0.015	17.709	0.015	17.600	0.025	27.6	D
1963-54331-212	323.1940918	-0.849611	8.5	5.2	5494	50	3.56	0.21	-1.55	0.02	19.717	0.038	18.636	0.012	18.213	0.033	18.054	0.021	17.951	0.028	22.1	D
1963-54331-217	323.2306213	-0.819139	-1.2	3.2	5423	27	3.10	0.13	-1.47	0.02	19.091	0.030	17.824	0.009	17.363	0.010	17.142	0.016	17.081	0.019	33.1	D
1963-54331-218	323.2166138	-0.902027	-8.3	3.1	5399	19	3.20	0.14	-1.63	0.04	19.204	0.029	17.963	0.008	17.512	0.016	17.351	0.029	17.275	0.018	33.3	D
1963-54331-220	323.1990967	-0.894439	7.5	10.4	6438	99	4.00	0.29	-1.77	0.08	20.256	0.067	19.336	0.014	19.109	0.028	19.041	0.033	19.033	0.056	13.1	D
1963-54331-222	323.2009888	-0.778871	-2.1	8.8	6343	85	3.24	0.17	-1.48	0.04	20.242	0.071	19.344	0.017	19.145	0.019	19.049	0.026	19.034	0.066	13.0	D
1963-54331-223	323.1011353	-0.693063	6.0	11.3	6302	24	3.59	0.19	-1.59	0.03	20.160	0.069	19.280	0.019	19.007	0.015	18.905	0.018	18.908	0.048	13.2	C
1963-54331-254	323.1844177	-0.806918	-1.8	8.1	6679	172	3.87	0.19	-1.72	0.03	20.223	0.082	19.273	0.019	19.036	0.023	18.983	0.027	18.999	0.061	13.3	D
M3																						
2475-53845-105	205.65282	28.32783	-145.0	2.9	6149	26	3.12	0.27	-1.42	0.07	16.941	0.011	15.834	0.008	15.555	0.004	15.473	0.008	15.438	0.009	34.6	D
2475-53845-114	205.73204	28.36875	-137.2	2.9	5457	61	2.18	0.39	-1.77	0.04	16.871	0.009	15.706	0.008	15.275	0.018	15.116	0.005	15.055	0.009	35.8	D
2475-53845-116	205.78650	28.20934	-140.9	1.3	4846	106	2.17	0.13	-1.66	0.06	16.909	0.022	15.109	0.014	14.395	0.012	14.112	0.012	13.967	0.018	58.6	C
2475-53845-118	205.86803	28.29956	-136.0	8.0	5455	53	2.82	0.34	-1.55	0.09	18.722	0.028	17.492	0.015	17.007	0.012	16.807	0.013	16.735	0.020	13.8	C

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log <i>g</i> (dex)	$\sigma_{log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[Fe/H]}$ (dex)	<i>u</i>	σ_u	<i>g</i>	σ_g	<i>r</i>	σ_r	<i>i</i>	σ_i	<i>z</i>	σ_z	<S/N>	Tag
2475-53845-119	205.63819	28.31352	-145.2	2.4	5022	47	2.40	0.15	-1.54	0.04	17.405	0.012	16.003	0.004	15.395	0.003	15.160	0.006	15.043	0.009	37.2	D
2475-53845-120	205.65500	28.36429	-140.5	3.0	5110	41	2.64	0.18	-1.61	0.03	17.560	0.012	16.254	0.005	15.679	0.005	15.472	0.008	15.341	0.008	32.6	D
2475-53845-141	205.37022	28.08121	-137.0	1.9	4961	67	2.42	0.21	-1.45	0.08	17.085	0.019	15.471	0.022	14.795	0.017	14.531	0.017	14.411	0.016	46.2	C
2475-53845-142	205.53038	28.29455	-132.0	1.7	4946	92	2.13	0.10	-1.58	0.06	17.014	0.011	15.427	0.014	14.755	0.004	14.479	0.005	14.348	0.009	48.4	D
2475-53845-143	205.67828	28.22223	-141.6	2.3	5046	80	2.17	0.16	-1.69	0.04	17.070	0.009	15.621	0.010	14.990	0.008	14.713	0.012	14.621	0.009	41.4	D
2475-53845-144	205.59709	28.33082	-139.8	2.5	5047	87	2.81	0.02	-1.39	0.04	17.386	0.013	15.915	0.005	15.291	0.007	15.040	0.007	14.913	0.009	36.5	D
2475-53845-145	205.60485	28.35609	-143.5	1.8	5240	72	2.15	0.14	-1.55	0.04	16.531	0.010	15.116	0.006	14.549	0.005	14.308	0.008	14.204	0.009	52.5	D
2475-53845-150	205.60948	28.31341	-139.8	1.5	5007	41	2.15	0.16	-1.61	0.02	16.452	0.014	14.933	0.006	14.298	0.003	14.058	0.010	13.930	0.008	58.8	D
2475-53845-160	205.60966	28.08865	-140.9	2.2	5003	79	2.42	0.19	-1.65	0.02	17.112	0.028	15.631	0.020	15.029	0.011	14.769	0.011	14.635	0.022	44.2	C
2475-53845-162	205.33562	28.19703	-139.7	1.6	5066	61	2.17	0.18	-1.50	0.03	16.693	0.019	15.176	0.022	14.586	0.017	14.345	0.017	14.233	0.016	54.2	C
2475-53845-166	205.53993	28.34023	-130.5	3.0	6927	119	3.26	0.08	-1.36	0.03	16.986	0.010	15.846	0.014	15.633	0.009	15.641	0.014	15.715	0.014	37.5	D
2475-53845-171	205.56812	28.30619	-141.7	1.9	4929	86	2.29	0.08	-1.59	0.03	17.042	0.010	15.421	0.005	14.737	0.005	14.474	0.005	14.337	0.008	45.7	D
2475-53845-173	205.58101	28.35808	-134.0	1.6	5110	108	2.11	0.06	-1.49	0.03	16.585	0.010	15.115	0.007	14.479	0.005	14.219	0.005	14.116	0.008	51.1	D
2475-53845-174	205.54022	28.30869	-142.7	2.9	5653	77	3.06	0.02	-1.68	0.05	16.852	0.009	15.699	0.013	15.324	0.004	15.184	0.007	15.147	0.008	35.3	D
2475-53845-176	205.56639	28.34351	-144.2	1.4	4853	93	2.02	0.15	-1.58	0.03	16.472	0.014	14.720	0.013	13.980	0.004	14.301	...	13.522	0.010	65.7	B
2475-53845-177	205.59311	28.30183	-142.0	2.1	4996	98	2.16	0.04	-1.82	0.11	17.343	0.014	15.806	0.005	15.210	0.005	14.950	0.008	14.837	0.012	41.3	D
2475-53845-178	205.49657	28.33273	-143.9	2.4	5004	65	2.13	0.09	-1.74	0.03	17.115	0.009	15.715	0.013	15.091	0.006	14.839	0.006	14.709	0.012	41.5	D
2475-53845-180	205.47751	28.33410	-141.4	2.7	5864	69	2.46	0.38	-1.71	0.06	16.839	0.008	15.728	0.007	15.390	0.008	15.276	0.007	15.250	0.012	38.6	D
2475-53845-183	205.49975	28.28083	-147.1	3.0	5084	82	2.35	0.03	-1.54	0.04	17.767	0.011	16.382	0.011	15.807	0.008	15.581	0.011	15.466	0.009	29.0	D
2475-53845-185	205.35177	28.31312	-141.8	5.4	5254	89	3.18	0.22	-1.45	0.10	18.421	0.019	17.131	0.011	16.623	0.007	16.412	0.007	16.319	0.011	17.1	D
2475-53845-186	205.51608	28.24446	-141.8	1.8	4912	78	2.19	0.07	-1.58	0.06	16.933	0.009	15.265	0.006	14.577	0.004	14.294	0.006	14.161	0.010	52.3	D
2475-53845-187	205.56002	28.16144	-144.6	3.9	8172	66	3.39	0.10	-1.40	0.06	16.807	0.017	15.646	0.024	15.741	0.013	15.894	0.014	15.984	0.016	36.7	C
2475-53845-190	205.39697	28.33059	-144.4	3.0	5533	59	3.07	0.15	-1.57	0.04	16.975	0.008	15.764	0.007	15.310	0.014	15.134	0.015	15.062	0.008	38.8	D
2475-53845-192	205.53319	28.16607	-138.1	4.9	5198	72	2.73	0.16	-1.56	0.04	18.129	0.021	16.891	0.024	16.317	0.013	16.108	0.014	16.026	0.016	20.9	C
2475-53845-193	205.36685	28.33505	-142.7	3.2	5716	83	2.91	0.22	-1.63	0.05	16.857	0.007	15.703	0.008	15.333	0.008	15.175	0.009	15.125	0.010	38.9	D
2475-53845-194	205.51430	28.30106	-130.8	3.6	6440	94	3.29	0.28	-1.50	0.02	17.115	0.011	16.016	0.014	15.804	0.007	15.753	0.006	15.746	0.010	34.5	D
2475-53845-196	205.52200	28.26799	-150.7	1.9	5039	76	2.29	0.11	-1.54	0.04	17.034	0.009	15.513	0.011	14.868	0.005	14.599	0.005	14.491	0.011	47.9	D
2475-53845-198	205.49830	28.31073	-145.0	1.5	4941	104	2.09	0.11	-1.46	0.07	16.816	0.009	15.040	0.016	14.329	0.005	14.048	0.008	13.892	0.010	58.2	D
2475-53845-199	205.45296	28.33409	-145.9	1.7	5051	70	1.88	0.10	-1.55	0.03	16.500	0.006	14.936	0.010	14.303	0.008	14.049	0.006	13.943	0.011	58.1	D
2475-53845-200	205.35902	28.28852	-136.9	5.4	5421	134	3.35	0.38	-1.52	0.03	18.499	0.018	17.238	0.009	16.730	0.008	16.527	0.010	16.440	0.011	17.9	D
2475-53845-421	205.34831	28.49451	-142.6	1.1	4771	79	1.85	0.12	-1.47	0.06	16.575	0.014	14.656	0.014	13.901	0.018	13.575	0.001	13.403	0.014	68.4	C
2475-53845-430	205.20487	28.53187	-131.1	5.8	5244	95	2.91	0.11	-1.51	0.04	18.656	0.024	17.342	0.024	16.819	0.020	16.612	0.010	16.518	0.019	17.2	C
2475-53845-436	205.36178	28.39571	-142.6	1.2	4866	101	2.03	0.11	-1.52	0.05	16.803	0.007	14.956	0.011	14.232	0.007	13.924	0.008	13.762	0.009	62.6	D
2475-53845-440	205.31259	28.40336	-139.1	1.3	4921	73	2.08	0.11	-1.49	0.10	16.833	0.011	15.039	0.010	14.353	0.011	14.061	0.006	13.886	0.010	60.3	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log g (dex)	$\sigma_{log g}$ (dex)	[Fe/H]	$\sigma_{[Fe/H]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle S/N \rangle$	Tag
2475-53845-461	205.38832	28.38585	-142.6	1.6	4936	46	2.02	0.13	-1.70	0.04	16.962	0.008	15.477	0.009	14.836	0.012	14.561	0.029	14.444	0.011	50.6	D
2475-53845-462	205.42846	28.40494	-135.4	2.4	6229	91	2.88	0.35	-1.45	0.04	16.742	0.008	15.592	0.004	15.366	0.009	15.322	0.008	15.290	0.009	40.6	D
2475-53845-463	205.45607	28.35685	-143.8	1.7	5123	72	2.09	0.02	-1.56	0.06	16.565	0.007	15.139	0.008	14.561	0.009	14.323	0.004	14.219	0.010	56.5	D
2475-53845-466	205.43604	28.38609	-147.5	1.8	4898	59	1.96	0.12	-1.82	0.05	16.875	0.009	15.360	0.012	14.710	0.013	14.443	0.005	14.314	0.007	52.6	D
2475-53845-469	205.40194	28.46030	-137.0	3.0	5071	56	2.13	0.07	-1.67	0.04	17.969	0.012	16.634	0.007	16.106	0.007	15.877	0.007	15.779	0.009	27.8	D
2475-53845-471	205.53495	28.43178	-149.3	1.5	5203	97	2.06	0.03	-1.55	0.04	16.601	0.008	15.103	0.005	14.527	0.014	14.294	0.014	14.189	0.006	55.8	D
2475-53845-473	205.54987	28.42257	-141.7	1.2	4928	74	2.09	0.14	-1.54	0.06	16.792	0.010	14.981	0.005	14.300	0.013	14.542	...	13.824	0.013	63.1	B
2475-53845-475	205.43603	28.43912	-139.7	1.7	4921	95	1.99	0.14	-1.68	0.06	17.107	0.010	15.547	0.004	14.911	0.007	14.653	0.007	14.527	0.007	50.2	D
2475-53845-476	205.46535	28.43283	-144.7	2.3	5418	79	2.60	0.16	-1.67	0.03	16.900	0.008	15.664	0.005	15.211	0.005	15.020	0.008	14.953	0.005	44.6	D
2475-53845-479	205.48329	28.39330	-136.0	1.5	5053	39	2.16	0.13	-1.59	0.02	16.440	0.010	14.984	0.012	14.381	0.012	14.129	0.012	14.013	0.009	60.2	D
2475-53845-480	205.51179	28.40376	-140.8	1.7	4963	84	2.18	0.13	-1.61	0.04	17.009	0.010	15.350	0.007	14.712	0.009	14.433	0.011	14.296	0.010	53.3	D
2475-53845-481	205.56280	28.45170	-139.7	3.0	5813	96	2.79	0.37	-1.49	0.03	17.059	0.010	15.886	0.006	15.567	0.016	15.462	0.011	15.440	0.007	35.3	D
2475-53845-483	205.58224	28.37896	-138.7	1.0	4806	120	1.68	0.13	-1.32	0.07	16.500	0.011	14.470	0.010	13.717	0.015	13.971	...	13.138	0.012	71.2	B
2475-53845-485	205.40959	28.49847	-147.1	3.6	8511	162	3.29	0.15	-1.45	0.13	16.821	0.010	15.558	0.011	15.740	0.004	15.886	0.010	15.991	0.013	38.0	D
2475-53845-486	205.44677	28.49691	-145.8	1.1	4929	89	2.22	0.27	-1.47	0.05	16.463	0.014	14.507	0.014	13.938	0.001	13.383	0.001	13.216	0.014	69.9	C
2475-53845-487	205.47013	28.47360	-147.6	7.1	5200	222	3.67	0.15	-1.34	0.09	18.982	0.020	17.760	0.006	17.274	0.008	17.077	0.010	16.984	0.018	12.7	D
2475-53845-488	205.45635	28.52500	-146.4	2.0	4987	32	2.25	0.14	-1.66	0.05	17.130	0.008	15.680	0.005	15.078	0.010	14.826	0.004	14.720	0.013	45.8	D
2475-53845-489	205.60288	28.39129	-142.7	1.4	4955	82	2.06	0.09	-1.64	0.07	16.958	0.012	15.342	0.011	14.657	0.007	14.376	0.007	14.233	0.013	55.2	D
2475-53845-492	205.63534	28.39326	-147.2	2.8	5768	63	3.23	0.19	-1.52	0.04	16.921	0.010	15.767	0.004	15.418	0.005	15.295	0.005	15.249	0.016	36.7	D
2475-53845-496	205.59949	28.41169	-138.7	1.5	4903	73	2.09	0.10	-1.60	0.04	16.796	0.009	15.134	0.005	14.457	0.008	14.700	...	14.043	0.013	58.2	B
2475-53845-497	205.64308	28.41689	-139.2	1.2	4892	63	2.14	0.11	-1.64	0.07	16.784	0.019	15.078	0.013	14.401	0.014	15.218	0.024	14.085	0.016	59.0	C
2475-53845-498	205.61218	28.43980	-142.7	1.6	4906	53	2.24	0.09	-1.55	0.06	17.069	0.009	15.368	0.005	14.701	0.012	14.445	0.011	14.316	0.010	54.0	D
2475-53845-501	205.74192	28.42850	-146.3	2.7	5063	24	2.53	0.15	-1.64	0.02	17.749	0.009	16.335	0.007	15.785	0.006	15.552	0.007	15.456	0.010	34.1	D
2475-53845-505	205.68053	28.47108	-142.8	3.3	8080	104	3.38	0.20	-1.37	0.06	16.722	0.006	15.475	0.007	15.572	0.008	15.657	0.007	15.746	0.009	43.1	D
2475-53845-506	205.71187	28.46612	-143.6	1.3	4915	61	1.96	0.12	-1.44	0.03	16.492	0.011	14.816	0.005	14.158	0.007	13.856	0.031	13.760	0.012	65.8	D
2475-53845-507	205.66435	28.49271	-139.4	4.9	5184	44	2.92	0.16	-1.72	0.06	18.251	0.014	17.033	0.005	16.542	0.005	16.323	0.005	16.254	0.010	21.3	D
2475-53845-509	205.63571	28.51821	-144.9	1.6	4957	45	2.31	0.11	-1.58	0.04	17.169	0.008	15.615	0.006	14.975	0.007	14.723	0.004	14.592	0.010	50.4	D
2475-53845-510	205.60747	28.47946	-142.6	2.8	6956	234	2.06	0.12	-1.37	0.06	16.542	0.009	15.309	0.007	15.306	0.007	15.360	0.007	15.410	0.008	36.0	D
2475-53845-511	205.64513	28.43755	-144.6	1.6	4995	34	2.22	0.10	-1.52	0.03	16.628	0.006	15.134	0.005	14.521	0.006	14.274	0.012	14.178	0.007	58.9	D
2475-53845-514	205.73093	28.38494	-143.4	2.3	5074	43	2.44	0.21	-1.57	0.03	17.545	0.009	16.109	0.005	15.539	0.008	15.313	0.008	15.190	0.006	37.1	D
2475-53845-515	205.68951	28.41266	-139.7	1.6	4955	62	2.25	0.09	-1.47	0.05	17.098	0.008	15.384	0.005	14.735	0.006	14.444	0.008	14.318	0.007	54.6	D
2475-53845-518	205.70525	28.39799	-143.8	1.1	4870	64	2.15	0.14	-1.41	0.03	16.915	0.009	15.058	0.004	14.330	0.004	14.012	0.014	13.866	0.009	62.3	D
2475-53845-519	205.60952	28.45819	-143.6	1.9	5003	34	2.53	0.11	-1.58	0.00	17.416	0.010	15.947	0.007	15.343	0.009	15.097	0.006	14.992	0.008	41.6	D
2475-53845-520	205.79730	28.38930	-138.1	2.2	4980	19	2.54	0.13	-1.69	0.06	17.607	0.009	16.177	0.008	15.578	0.028	15.361	0.011	15.239	0.016	38.0	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2475-53845-550	205.54473	28.69427	-149.4	7.2	5043	123	2.82	0.21	-1.78	0.00	18.834	0.029	17.683	0.017	17.222	0.016	17.006	0.012	16.909	0.019	13.8	C
2475-53845-551	205.53566	28.55088	-138.2	1.4	4873	71	2.20	0.16	-1.75	0.05	16.951	0.008	15.296	0.007	14.610	0.007	14.330	0.010	14.200	0.009	55.7	D
2475-53845-557	205.46425	28.60144	-148.4	3.3	5075	31	2.09	0.22	-1.77	0.05	18.087	0.019	16.703	0.006	16.158	0.005	15.932	0.007	15.834	0.012	27.4	D
2475-53845-558	205.69384	28.53518	-150.7	2.1	5005	42	2.50	0.06	-1.62	0.03	17.560	0.010	16.075	0.004	15.473	0.004	15.227	0.006	15.114	0.009	40.8	D
2475-53845-559	205.60380	28.54704	-140.7	1.7	5002	53	2.39	0.11	-1.56	0.04	17.278	0.009	15.713	0.006	15.086	0.005	14.835	0.008	14.713	0.007	47.6	D
M13																						
2174-53521-054	250.8113861	36.380367	-238.4	5.1	5637	44	3.25	0.16	-1.59	0.03	18.978	0.029	17.814	0.014	17.391	0.020	17.237	0.020	17.185	0.020	21.0	C
2174-53521-082	250.6566925	36.292824	-241.3	1.7	5083	42	2.39	0.14	-1.70	0.05	16.905	0.017	15.424	0.013	14.845	0.020	14.627	0.019	14.505	0.017	55.0	C
2174-53521-087	250.5986176	36.141987	-232.7	3.3	5480	54	3.22	0.13	-1.65	0.05	18.441	0.022	17.258	0.016	16.796	0.018	16.619	0.019	16.547	0.021	29.1	C
2174-53521-093	250.6486664	36.331833	-242.7	1.9	5048	49	2.32	0.14	-1.62	0.03	16.672	0.009	15.225	0.012	14.589	0.036	14.342	0.020	14.208	0.032	57.2	D
2174-53521-094	250.6187286	36.193378	-235.2	3.5	5432	46	3.31	0.14	-1.60	0.05	18.410	0.022	17.245	0.016	16.781	0.018	16.552	0.019	16.476	0.021	30.1	C
2174-53521-098	250.6272430	36.330879	-250.7	1.6	5062	69	2.39	0.15	-1.79	0.06	16.892	0.009	15.525	0.009	14.939	0.029	14.695	0.020	14.573	0.032	54.7	D
2174-53521-121	250.5334473	36.323925	-249.4	1.9	5298	60	2.62	0.13	-1.59	0.02	17.484	0.015	16.227	0.011	15.684	0.016	15.485	0.012	15.386	0.010	48.0	D
2174-53521-126	250.4946899	36.287205	-232.9	3.9	5336	66	2.95	0.09	-1.64	0.05	18.250	0.021	17.014	0.013	16.536	0.012	16.337	0.014	16.276	0.015	33.1	D
2174-53521-128	250.4741516	36.309807	-249.0	4.3	5374	50	3.24	0.18	-1.72	0.05	18.654	0.020	17.480	0.008	17.022	0.013	16.824	0.014	16.751	0.016	24.7	D
2174-53521-131	250.4893646	36.332115	-243.0	2.0	5059	39	3.37	0.47	-1.45	0.08	19.098	0.039	18.175	0.010	17.908	0.015	24.329	4.297	17.735	0.025	58.2	C
2174-53521-133	250.5125122	36.321091	-242.6	3.4	5338	56	3.10	0.10	-1.60	0.03	18.101	0.016	16.876	0.008	16.381	0.010	16.175	0.012	16.088	0.014	37.8	D
2174-53521-134	250.5464020	36.344273	-242.6	3.2	5472	64	3.31	0.10	-1.52	0.04	18.453	0.016	17.284	0.011	16.832	0.013	16.618	0.009	16.515	0.014	30.0	D
2174-53521-136	250.4905701	36.363522	-242.9	2.0	9332	312	3.20	0.16	-1.58	0.26	16.264	0.021	15.168	0.012	15.452	0.016	15.647	0.009	15.768	0.019	54.4	D
2174-53521-137	250.5240936	36.376110	-251.9	1.8	5240	64	2.44	0.13	-1.54	0.06	16.979	0.010	15.567	0.006	15.007	0.010	14.806	0.009	14.680	0.009	55.6	D
2174-53521-145	250.4505157	36.393330	-246.4	1.6	5036	72	2.15	0.13	-1.59	0.02	16.535	0.020	14.969	0.012	14.314	0.035	14.590	...	13.922	0.022	60.1	B
2174-53521-146	250.3612061	36.200855	-247.1	4.4	5562	33	3.09	0.23	-1.58	0.04	18.843	0.027	17.680	0.013	17.253	0.028	17.060	0.028	17.044	0.029	23.4	D
2174-53521-149	250.3400269	36.200890	-243.5	4.8	5560	49	3.42	0.12	-1.56	0.05	18.931	0.033	17.781	0.013	17.359	0.033	17.171	0.034	17.133	0.031	20.9	D
2174-53521-152	250.3966980	36.394932	-246.8	1.8	8934	202	3.23	0.12	-1.68	0.11	16.098	0.020	14.897	0.012	15.132	0.033	15.296	0.024	15.397	0.012	56.1	D
2174-53521-153	250.4664001	36.409313	-247.8	1.8	8477	155	3.25	0.13	-1.65	0.06	16.165	0.009	14.931	0.014	15.107	0.020	15.249	0.016	15.296	0.016	56.7	D
2174-53521-154	250.4661713	36.326332	-249.9	1.6	5041	50	2.26	0.09	-1.72	0.07	16.624	0.014	15.058	0.005	14.449	0.011	14.690	...	14.044	0.009	59.1	B
2174-53521-155	250.3851166	36.147091	-240.1	2.4	5279	45	2.82	0.15	-1.73	0.03	17.757	0.030	16.521	0.007	16.007	0.028	15.805	0.009	15.700	0.023	41.8	D
2174-53521-156	250.3521576	36.409504	-239.7	1.7	5121	54	2.35	0.15	-1.76	0.04	17.062	0.014	15.656	0.006	15.067	0.034	14.838	0.032	14.737	0.025	53.6	D
2174-53521-157	250.4519958	36.301846	-247.2	2.1	9099	216	3.38	0.15	-1.64	0.01	16.226	0.009	15.108	0.010	15.357	0.007	15.544	0.006	15.655	0.014	53.7	D
2174-53521-158	250.4085236	36.303894	-243.9	1.6	5190	49	2.44	0.14	-1.58	0.05	16.969	0.016	15.567	0.015	15.044	0.019	14.809	0.016	14.669	0.025	54.1	D
2174-53521-159	250.3711243	36.398438	-237.3	1.4	5075	50	2.05	0.08	-1.54	0.04	16.582	0.021	15.025	0.008	14.406	0.026	14.687	...	14.026	0.013	58.9	B
2174-53521-160	250.3690338	36.363808	-255.3	1.7	5097	59	1.85	0.19	-1.64	0.07	16.822	0.018	15.354	0.007	14.765	0.030	14.989	...	14.400	0.015	56.9	B
2174-53521-166	250.2722931	36.365372	-237.3	1.9	5120	63	2.43	0.16	-1.72	0.02	16.954	0.012	15.623	0.005	15.038	0.018	14.800	0.032	14.686	0.026	54.1	D
2174-53521-167	250.2756042	36.422920	-246.5	1.4	5028	52	1.81	0.15	-1.60	0.07	16.408	0.008	14.817	0.010	14.191	0.008	14.483	...	13.789	0.018	60.1	B

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2174-53521-168	250.2608337	36.437668	-244.0	1.4	5074	49	2.06	0.03	-1.70	0.06	16.750	0.008	15.244	0.012	14.665	0.009	14.941	...	14.276	0.018	57.3	B
2174-53521-171	250.3128967	36.398254	-247.0	1.5	4997	72	2.09	0.12	-1.66	0.04	16.478	0.015	14.958	0.011	14.298	0.015	14.566	...	13.909	0.018	60.2	B
2174-53521-172	250.3078461	36.417362	-247.8	1.5	5074	59	2.25	0.12	-1.67	0.06	16.745	0.012	15.298	0.010	14.689	0.012	14.915	...	14.319	0.021	57.6	B
2174-53521-174	250.1682281	36.190548	-250.9	7.8	5506	3	3.15	0.30	-1.86	0.02	18.875	0.034	17.904	0.017	17.478	0.018	17.357	0.016	17.304	0.022	18.6	C
2174-53521-175	250.3200226	36.326923	-235.7	1.7	8675	154	3.30	0.11	-1.43	0.06	16.066	0.022	14.865	0.010	15.062	0.014	15.224	0.009	15.309	0.019	53.5	D
2174-53521-176	250.3260651	36.347130	-240.3	1.9	5149	51	2.53	0.11	-1.64	0.03	17.115	0.020	15.730	0.005	15.165	0.027	14.930	0.013	14.818	0.015	53.5	D
2174-53521-215	250.0930939	36.313175	-242.3	1.8	5121	44	2.36	0.16	-1.77	0.02	16.780	0.019	15.346	0.016	14.782	0.018	14.561	0.025	14.440	0.017	56.9	C
2174-53521-368	250.1569672	36.596581	-254.1	3.4	5371	66	3.18	0.09	-1.56	0.07	18.661	0.024	17.507	0.016	17.046	0.010	16.865	0.025	16.787	0.020	26.8	C
2174-53521-376	250.1804047	36.558369	-247.4	2.0	5134	46	2.45	0.21	-1.76	0.06	17.124	0.017	15.783	0.015	15.212	0.009	14.987	0.025	14.935	0.017	47.3	C
2174-53521-402	250.2494965	36.627911	-252.8	3.9	5452	49	3.34	0.03	-1.58	0.04	18.904	0.032	17.810	0.009	17.398	0.012	17.219	0.018	17.087	0.020	23.1	D
2174-53521-403	250.2917633	36.632149	-258.6	5.2	5735	50	3.72	0.06	-1.57	0.06	18.946	0.032	17.981	0.010	17.608	0.009	17.443	0.012	17.377	0.019	21.7	D
2174-53521-406	250.2974548	36.656551	-249.8	4.4	5371	111	3.23	0.16	-1.83	0.05	18.971	0.036	17.893	0.008	17.487	0.011	17.308	0.012	17.248	0.028	23.8	D
2174-53521-407	250.2983246	36.606567	-251.3	1.9	5256	57	2.96	0.11	-1.53	0.03	17.806	0.023	16.612	0.009	16.094	0.008	15.894	0.012	15.771	0.012	44.5	D
2174-53521-410	250.2953033	36.564213	-237.8	1.4	5061	75	2.36	0.24	-1.74	0.02	16.775	0.012	15.329	0.008	14.694	0.012	15.007	...	14.341	0.021	58.7	B
2174-53521-412	250.2389069	36.587105	-242.8	3.7	5399	56	2.57	0.15	-1.62	0.06	18.602	0.024	17.467	0.016	16.961	0.009	16.800	0.025	16.748	0.019	28.5	C
2174-53521-413	250.3145905	36.517387	-237.6	1.6	5107	26	2.20	0.13	-1.65	0.07	16.976	0.009	15.535	0.012	14.964	0.006	14.720	0.011	14.599	0.012	57.0	D
2174-53521-414	250.2673035	36.586380	-241.9	3.4	5349	67	2.71	0.16	-1.58	0.04	18.604	0.024	17.456	0.016	16.909	0.009	16.782	0.025	16.711	0.019	30.8	C
2174-53521-442	250.3338928	36.614479	-249.2	1.8	8514	129	3.24	0.15	-1.58	0.05	16.067	0.014	14.867	0.015	15.037	0.005	15.205	0.014	15.269	0.014	57.9	D
2174-53521-443	250.3404846	36.465477	-255.4	1.7	5109	40	2.19	0.07	-1.68	0.06	16.817	0.009	15.333	0.015	14.746	0.009	14.962	...	14.387	0.026	58.6	B
2174-53521-445	250.3153534	36.581833	-247.6	4.4	5629	31	3.18	0.08	-1.60	0.03	18.970	0.032	17.893	0.011	17.490	0.010	17.316	0.011	17.262	0.018	23.1	D
2174-53521-447	250.3488159	36.637089	-246.1	3.7	5545	35	3.15	0.22	-1.56	0.03	18.742	0.021	17.683	0.011	17.240	0.009	17.050	0.010	17.008	0.019	27.1	D
2174-53521-449	250.3311310	36.507713	-244.1	1.4	5069	59	2.36	0.10	-1.80	0.04	16.818	0.009	15.349	0.014	14.765	0.006	15.020	...	14.364	0.024	58.4	B
2174-53521-451	250.4059753	36.421410	-245.1	1.9	8466	146	3.22	0.20	-1.66	0.10	16.164	0.023	14.994	0.009	15.166	0.029	15.378	0.027	15.472	0.019	58.3	D
2174-53521-452	250.2902679	36.445755	-256.6	1.5	4997	43	2.45	0.17	-1.70	0.05	16.557	0.008	15.112	0.013	14.504	0.007	14.782	...	14.101	0.019	59.9	B
2174-53521-453	250.3791046	36.437355	-238.2	1.6	5107	35	2.47	0.14	-1.57	0.04	16.750	0.025	15.286	0.021	14.677	0.035	14.966	...	14.356	0.025	59.0	B
2174-53521-455	250.3236237	36.436779	-251.3	1.3	5053	41	2.34	0.14	-1.68	0.06	16.840	0.011	15.378	0.009	14.779	0.009	15.104	...	14.417	0.020	58.6	B
2174-53521-456	250.3559265	36.608372	-248.2	2.9	5402	31	3.01	0.16	-1.56	0.03	18.541	0.025	17.371	0.014	16.908	0.009	16.718	0.009	16.642	0.015	32.0	D
2174-53521-457	250.3617706	36.424606	-244.6	1.3	5062	40	2.27	0.15	-1.63	0.03	16.693	0.019	15.178	0.011	14.561	0.027	14.816	...	14.190	0.022	59.8	B
2174-53521-458	250.3153839	36.463863	-245.9	1.7	5069	63	2.32	0.20	-1.65	0.07	16.633	0.009	15.068	0.014	14.457	0.005	14.702	...	14.075	0.027	60.4	B
2174-53521-459	250.3159637	36.554893	-245.0	1.3	5118	25	2.52	0.15	-1.50	0.06	16.673	0.016	15.201	0.016	14.643	0.014	14.401	0.017	14.135	0.015	59.6	C
2174-53521-460	250.3238525	36.491585	-238.9	1.4	5030	60	1.96	0.17	-1.59	0.09	16.464	0.009	14.823	0.012	14.202	0.006	14.470	...	13.765	0.024	61.7	B
2174-53521-461	250.4161987	36.592712	-245.1	2.9	5415	29	3.30	0.17	-1.62	0.02	18.453	0.020	17.359	0.009	16.894	0.008	16.696	0.011	16.610	0.014	29.8	D
2174-53521-462	250.3755035	36.591190	-245.5	1.5	5006	42	2.41	0.14	-1.65	0.04	16.561	0.008	15.126	0.014	14.509	0.003	14.228	0.012	14.112	0.009	59.7	D
2174-53521-463	250.4506531	36.594818	-243.8	1.8	5102	46	2.38	0.15	-1.67	0.06	17.021	0.015	15.630	0.005	15.054	0.016	14.802	0.006	14.704	0.009	55.6	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log <i>g</i> (dex)	$\sigma_{log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[Fe/H]}$ (dex)	<i>u</i>	σ_u	<i>g</i>	σ_g	<i>r</i>	σ_r	<i>i</i>	σ_i	<i>z</i>	σ_z	$\langle S/N \rangle$	Tag
2174-53521-464	250.3977661	36.604618	-239.1	1.8	8616	166	3.21	0.11	-1.60	0.00	16.109	0.008	14.892	0.011	15.089	0.006	15.219	0.011	15.309	0.012	58.2	D
2174-53521-470	250.3885956	36.541203	-241.2	1.5	4991	59	2.13	0.16	-1.59	0.06	16.422	0.009	14.850	0.007	14.226	0.010	13.924	0.007	13.797	0.007	61.6	D
2174-53521-471	250.4050598	36.680744	-248.8	1.9	5166	46	2.75	0.13	-1.64	0.05	17.521	0.020	16.278	0.006	15.740	0.009	15.526	0.012	15.420	0.012	48.5	D
2174-53521-472	250.4392548	36.430611	-243.1	1.6	7622	81	3.26	0.15	-1.34	0.04	16.046	0.009	14.824	0.020	14.831	0.024	14.929	0.027	14.940	0.016	59.5	D
2174-53521-474	250.4210815	36.630798	-237.7	4.0	5421	44	3.21	0.26	-1.77	0.04	18.777	0.030	17.612	0.008	17.153	0.011	16.973	0.012	16.897	0.016	27.3	D
2174-53521-475	250.4187622	36.526752	-239.4	1.3	5164	159	3.56	0.44	-1.86	0.04	16.428	0.009	14.909	0.008	14.538	...	14.026	0.021	13.893	0.007	61.1	B
2174-53521-476	250.4537811	36.534679	-249.7	2.0	5111	32	2.66	0.14	-1.55	0.11	17.180	0.014	15.727	0.008	15.183	0.012	14.928	0.026	14.822	0.010	53.6	D
2174-53521-477	250.4329834	36.411579	-240.9	1.5	5051	39	2.38	0.14	-1.51	0.03	16.682	0.023	15.217	0.006	14.583	0.040	14.848	...	14.218	0.012	59.6	B
2174-53521-478	250.4082642	36.497627	-234.4	1.6	5115	44	2.31	0.11	-1.62	0.04	16.844	0.010	15.422	0.008	14.842	0.011	14.633	0.024	14.490	0.014	58.1	D
2174-53521-480	250.3775940	36.560562	-244.9	2.5	5274	18	2.90	0.16	-1.52	0.02	18.093	0.016	16.899	0.009	16.410	0.005	16.186	0.010	16.105	0.010	39.3	D
2174-53521-481	250.4867401	36.625168	-246.3	5.3	5633	34	3.31	0.22	-1.54	0.05	18.909	0.025	17.867	0.010	17.459	0.009	19.472	0.183	17.225	0.018	20.4	D
2174-53521-483	250.5531464	36.489174	-254.5	1.3	5042	35	2.29	0.16	-1.65	0.03	16.623	0.013	15.141	0.013	14.532	0.024	14.261	0.021	14.156	0.019	59.7	D
2174-53521-484	250.5136871	36.465294	-255.2	1.3	5043	50	2.30	0.14	-1.51	0.01	16.656	0.012	15.187	0.015	14.558	0.026	14.295	0.026	14.175	0.012	59.8	D
2174-53521-485	250.5274811	36.482922	-251.1	1.6	5148	38	2.24	0.17	-1.65	0.08	16.911	0.015	15.489	0.016	14.940	0.024	14.684	0.028	14.588	0.014	56.9	D
2174-53521-488	250.5207062	36.526783	-246.1	1.5	5096	33	2.48	0.13	-1.61	0.04	17.079	0.012	15.725	0.013	15.152	0.016	14.906	0.018	14.783	0.008	55.4	D
2174-53521-489	250.5569153	36.554108	-246.5	1.6	5077	55	2.36	0.17	-1.64	0.03	16.996	0.013	15.576	0.009	14.972	0.010	14.737	0.016	14.599	0.010	56.7	D
2174-53521-490	250.4679413	36.425194	-234.5	1.8	8782	167	3.29	0.09	-1.71	0.05	16.199	0.007	15.009	0.016	15.220	0.024	15.372	0.025	15.466	0.014	57.2	D
2174-53521-491	250.5045319	36.562569	-249.7	1.9	9192	251	3.40	0.13	-1.73	0.02	16.202	0.012	15.140	0.013	15.392	0.016	15.596	0.021	15.712	0.017	55.8	D
2174-53521-493	250.4687042	36.450375	-247.9	1.8	5118	41	2.38	0.20	-1.65	0.03	16.592	0.010	15.088	0.024	14.484	0.021	14.205	0.022	14.081	0.013	60.4	D
2174-53521-494	250.4691467	36.473980	-234.9	1.5	5052	45	2.19	0.07	-1.65	0.05	16.646	0.012	15.143	0.019	14.523	0.014	14.264	0.026	14.133	0.008	59.9	D
2174-53521-495	250.5358582	36.516228	-250.3	1.5	5123	40	2.54	0.15	-1.62	0.04	17.303	0.014	15.998	0.015	15.425	0.016	15.189	0.019	15.082	0.007	52.6	D
2174-53521-497	250.5392151	36.566429	-240.3	1.6	5037	47	2.23	0.14	-1.65	0.05	16.883	0.014	15.410	0.009	14.782	0.015	14.543	0.011	14.394	0.012	58.0	D
2174-53521-498	250.5455017	36.409168	-240.7	1.5	5026	60	2.27	0.10	-1.68	0.04	16.579	0.015	15.122	0.006	14.522	0.012	14.244	0.011	14.131	0.013	59.8	D
2174-53521-499	250.5073700	36.389557	-242.0	1.7	5062	46	2.13	0.06	-1.69	0.09	16.605	0.013	15.089	0.014	14.482	0.014	14.206	0.010	14.088	0.015	60.0	D
2174-53521-500	250.4441376	36.501335	-249.6	1.4	5048	49	2.29	0.11	-1.62	0.03	16.701	0.012	15.302	0.011	14.700	0.009	14.438	0.026	14.329	0.010	58.8	D
2174-53521-522	250.5714569	36.525883	-244.9	1.7	5095	40	2.42	0.18	-1.61	0.06	16.957	0.012	15.503	0.010	14.919	0.014	14.665	0.014	14.557	0.011	57.4	D
2174-53521-529	250.6122742	36.650723	-245.6	1.9	5277	57	2.98	0.15	-1.65	0.08	17.703	0.020	16.474	0.020	15.954	0.019	15.746	0.019	15.664	0.017	46.6	C
2174-53521-530	250.5795441	36.617588	-246.8	1.3	5048	56	2.34	0.21	-1.79	0.09	16.818	0.007	15.287	0.004	14.667	0.010	14.416	0.008	14.261	0.036	58.8	D
2174-53521-531	250.6083527	36.451302	-243.9	1.5	4992	2	2.34	0.15	-1.63	0.06	16.624	0.012	15.229	0.006	14.614	0.009	14.349	0.010	14.230	0.016	59.4	D
2174-53521-532	250.5847015	36.450947	-245.9	1.8	8734	160	3.29	0.15	-1.49	0.02	16.147	0.010	14.970	0.009	15.172	0.007	15.325	0.012	15.428	0.013	58.0	D
2174-53521-533	250.5825653	36.416344	-248.1	4.6	5424	68	2.71	0.23	-1.74	0.01	18.853	0.025	17.797	0.009	17.360	0.013	17.165	0.011	17.125	0.017	24.3	D
2174-53521-537	250.6071167	36.431816	-252.4	1.5	5158	32	2.61	0.14	-1.61	0.05	17.275	0.012	15.965	0.007	15.433	0.009	15.188	0.010	15.082	0.009	53.3	D
2174-53521-538	250.5686798	36.437107	-252.4	1.3	5008	67	2.25	0.15	-1.57	0.03	16.543	0.013	15.042	0.003	14.412	0.009	14.148	0.013	14.020	0.012	60.9	D
2174-53521-539	250.6033020	36.480679	-251.9	3.3	5293	33	3.11	0.16	-1.63	0.04	18.758	0.022	17.657	0.007	17.184	0.015	16.983	0.010	16.884	0.032	28.1	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2174-53521-540	250.5608978	36.462700	-253.8	1.7	9017	206	3.33	0.10	-1.44	0.07	16.074	0.012	14.912	0.005	15.143	0.016	15.319	0.017	15.409	0.016	58.4	D
2174-53521-542	250.4867096	36.697521	-248.1	1.4	5050	61	2.36	0.18	-1.75	0.03	16.801	0.021	15.276	0.010	14.660	0.009	14.408	0.025	14.263	0.020	58.7	D
2174-53521-554	250.4524536	36.731075	-248.1	1.6	5148	49	2.40	0.13	-1.65	0.04	17.222	0.034	15.843	0.009	15.281	0.010	15.041	0.013	14.925	0.012	54.0	D
2174-53521-560	250.4494934	36.746979	-246.5	3.6	5282	36	2.80	0.19	-1.70	0.03	18.717	0.047	17.547	0.008	17.019	0.009	16.860	0.009	16.754	0.019	30.2	D
2174-53521-563	250.7275696	36.537083	-245.3	1.9	5213	32	2.82	0.20	-1.72	0.07	17.661	0.023	16.408	0.015	15.892	0.015	15.685	0.014	15.581	0.021	44.0	C
2174-53521-565	250.6674805	36.541718	-248.8	4.5	5582	75	3.06	0.20	-1.79	0.03	18.935	0.028	17.915	0.008	17.493	0.017	17.340	0.009	17.264	0.013	23.5	D
2174-53521-573	250.7793579	36.401161	-245.6	5.3	5545	59	3.54	0.14	-1.44	0.04	19.056	0.030	17.961	0.014	17.592	0.020	17.451	0.020	17.392	0.021	22.9	C
2174-53521-576	250.6557617	36.483734	-244.3	3.6	5466	49	3.28	0.14	-1.65	0.06	18.891	0.030	17.672	0.007	17.223	0.009	17.022	0.011	16.938	0.021	28.3	D
2174-53521-577	250.6542358	36.559769	-250.8	4.0	5474	45	2.86	0.12	-1.56	0.05	18.986	0.028	17.902	0.009	17.481	0.019	17.313	0.013	17.236	0.021	24.3	D
2185-53532-106	250.6608429	36.252338	-246.5	8.2	6083	96	4.08	0.33	-1.66	0.03	20.558	0.077	19.687	0.019	19.412	0.025	19.274	0.027	19.372	0.065	13.1	C
2185-53532-111	250.6518555	36.315819	-247.2	4.9	6306	46	3.42	0.26	-1.67	0.02	19.485	0.037	18.572	0.016	18.330	0.035	18.315	0.053	18.373	0.036	25.2	C
2185-53532-113	250.6327362	36.302673	-259.6	11.7	5995	82	3.31	0.39	-1.51	0.02	20.677	0.084	19.812	0.020	19.479	0.026	19.379	0.028	19.368	0.064	10.9	C
2185-53532-116	250.6650848	36.212494	-254.9	8.0	6198	107	3.59	0.29	-1.82	0.06	20.333	0.065	19.363	0.018	19.105	0.023	19.022	0.025	18.984	0.048	16.5	C
2185-53532-120	250.6814728	36.301613	-232.7	6.3	6232	52	4.32	0.10	-1.52	0.04	20.041	0.053	19.189	0.018	18.907	0.023	18.805	0.024	18.682	0.038	18.4	C
2185-53532-141	250.5120239	36.217281	-239.5	4.0	6279	52	3.40	0.38	-1.71	0.03	19.285	0.033	18.392	0.019	18.165	0.018	18.102	0.022	18.078	0.032	31.4	D
2185-53532-143	250.5701752	36.201962	-233.4	5.0	6280	27	2.99	0.03	-1.65	0.03	19.452	0.033	18.517	0.018	18.272	0.019	18.207	0.030	18.204	0.028	27.9	D
2185-53532-146	250.5652161	36.224529	-236.1	10.9	6107	43	2.55	0.49	-1.58	0.09	20.841	0.080	19.753	0.021	19.459	0.018	19.346	0.025	19.376	0.096	11.5	D
2185-53532-148	250.6033325	36.234558	-245.2	5.8	6275	45	3.54	0.29	-1.85	0.03	19.860	0.044	18.997	0.016	18.746	0.021	18.663	0.035	18.687	0.050	21.6	D
2185-53532-150	250.6054077	36.200813	-242.3	5.5	6252	46	3.46	0.29	-1.70	0.04	19.791	0.041	18.782	0.021	18.544	0.024	18.485	0.032	18.446	0.049	24.6	D
2185-53532-151	250.5511475	36.331841	-227.3	7.0	6101	42	3.73	0.38	-1.75	0.03	20.399	0.061	19.422	0.018	19.143	0.024	19.070	0.021	19.063	0.036	16.1	D
2185-53532-152	250.6186066	36.331161	-237.1	5.5	6320	49	3.54	0.47	-1.82	0.01	19.722	0.037	18.796	0.016	18.580	0.023	18.488	0.020	18.459	0.044	24.6	D
2185-53532-153	250.5179138	36.306831	-244.2	2.8	5774	21	3.45	0.12	-1.73	0.02	19.077	0.033	18.098	0.015	17.719	0.013	17.586	0.014	17.506	0.023	40.7	D
2185-53532-154	250.5811462	36.316139	-234.2	9.4	6151	140	3.16	0.38	-1.77	0.01	20.629	0.083	19.689	0.020	19.422	0.034	19.295	0.023	19.337	0.072	13.6	D
2185-53532-156	250.5538483	36.304375	-242.3	7.2	6300	30	3.71	0.24	-1.66	0.03	19.901	0.054	19.033	0.012	18.766	0.030	18.706	0.020	18.695	0.045	21.1	D
2185-53532-158	250.5086365	36.321423	-243.9	5.9	6274	42	4.11	0.31	-1.71	0.04	19.910	0.051	18.930	0.013	18.678	0.016	18.608	0.021	18.563	0.042	23.0	D
2185-53532-160	250.5746155	36.340302	-239.3	6.6	6175	65	3.88	0.18	-1.82	0.03	20.032	0.050	19.196	0.014	18.960	0.020	18.884	0.021	18.841	0.050	18.6	D
2185-53532-161	250.4026489	36.216274	-240.0	8.8	6036	104	4.37	0.35	-1.68	0.04	20.534	0.070	19.647	0.015	19.387	0.024	19.343	0.033	19.196	0.066	13.2	D
2185-53532-167	250.3744202	36.210903	-249.9	4.5	6221	61	3.66	0.24	-1.78	0.06	19.725	0.046	18.742	0.015	18.518	0.028	18.425	0.029	18.406	0.038	26.3	D
2185-53532-169	250.3382111	36.202835	-237.3	6.1	6210	43	3.31	0.35	-1.55	0.04	20.005	0.057	19.007	0.016	18.756	0.031	18.659	0.034	18.676	0.051	21.9	D
2185-53532-171	250.4276733	36.282719	-243.5	11.6	6139	63	3.72	0.26	-1.53	0.01	20.841	0.094	19.837	0.015	19.544	0.020	19.417	0.020	19.377	0.079	12.0	D
2185-53532-172	250.4851227	36.205223	-248.2	5.2	6304	37	3.90	0.18	-1.50	0.01	19.674	0.037	18.769	0.018	18.531	0.019	18.458	0.017	18.414	0.043	25.1	D
2185-53532-175	250.4423218	36.258049	-253.5	5.4	6445	87	3.87	0.39	-1.54	0.03	19.752	0.050	18.804	0.011	18.617	0.020	18.502	0.016	18.521	0.053	20.9	D
2185-53532-176	250.4879761	36.319519	-238.0	4.9	6239	34	4.04	0.12	-1.62	0.04	19.784	0.048	18.810	0.011	18.570	0.015	18.466	0.017	18.414	0.045	25.4	D
2185-53532-177	250.4530029	36.298698	-249.3	5.4	6378	54	3.40	0.40	-1.66	0.05	19.736	0.038	18.859	0.010	18.642	0.014	18.523	0.015	18.576	0.045	23.8	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2185-53532-178	250.4822845	36.300014	-245.6	5.9	6216	49	3.91	0.12	-1.70	0.02	19.951	0.047	19.076	0.017	18.826	0.019	18.747	0.020	18.732	0.054	21.4	D
2185-53532-179	250.4799957	36.221458	-242.5	4.1	6268	63	3.39	0.20	-1.72	0.03	19.259	0.033	18.436	0.018	18.207	0.015	18.121	0.017	18.144	0.035	31.1	D
2185-53532-181	250.2265778	36.218925	-247.5	5.3	6293	98	3.23	0.39	-1.70	0.06	19.601	0.048	18.742	0.018	18.506	0.019	18.446	0.018	18.385	0.037	25.3	C
2185-53532-196	250.1731720	36.201431	-248.0	6.4	6261	40	3.98	0.21	-1.60	0.02	19.854	0.054	19.028	0.018	18.758	0.020	18.698	0.019	18.748	0.047	20.8	C
2185-53532-197	250.1752930	36.316170	-241.0	7.2	6253	64	3.12	0.73	-1.62	0.08	20.078	0.064	19.108	0.019	18.849	0.020	18.802	0.028	18.838	0.051	18.3	C
2185-53532-198	250.2095490	36.280247	-244.3	5.4	6257	38	4.13	0.31	-1.65	0.03	19.566	0.044	18.883	0.018	18.621	0.020	18.527	0.027	18.534	0.041	24.4	C
2185-53532-200	250.1689453	36.354950	-246.5	8.7	6108	28	3.54	0.25	-1.71	0.03	20.629	0.098	19.754	0.022	19.468	0.024	19.360	0.032	19.243	0.074	12.2	C
2185-53532-237	250.1001129	36.310001	-239.1	3.2	5920	84	3.23	0.31	-1.72	0.03	19.066	0.034	18.063	0.017	17.777	0.018	17.644	0.026	17.631	0.025	39.4	C
2185-53532-388	250.0598145	36.565910	-250.6	3.5	6251	53	3.64	0.23	-1.58	0.02	19.200	0.030	18.283	0.016	18.043	0.010	17.934	0.025	17.899	0.027	34.1	C
2185-53532-390	250.0875244	36.539959	-249.3	7.9	6173	95	4.51	0.12	-1.58	0.06	20.230	0.055	19.372	0.018	19.109	0.014	19.014	0.027	19.001	0.054	13.7	C
2185-53532-393	250.0617828	36.626545	-255.3	8.9	6119	95	3.49	0.57	-1.48	0.07	20.768	0.083	19.913	0.025	19.538	0.019	19.445	0.026	19.498	0.078	11.4	C
2185-53532-423	250.1191559	36.614777	-249.4	5.2	6330	80	3.72	0.28	-1.73	0.06	19.827	0.043	18.879	0.017	18.636	0.012	18.560	0.026	18.582	0.040	24.7	C
2185-53532-424	250.1623840	36.546970	-243.4	4.7	6202	55	4.12	0.41	-1.80	0.06	19.981	0.103	19.227	0.106	18.962	0.098	18.796	0.092	19.014	0.161	25.6	C
2185-53532-425	250.1024933	36.708916	-250.0	3.3	6206	32	3.78	0.20	-1.74	0.05	19.222	0.031	18.304	0.022	18.042	0.014	17.978	0.021	17.945	0.028	36.1	C
2185-53532-426	250.1142273	36.579521	-244.8	2.7	5792	26	3.51	0.07	-1.73	0.03	19.046	0.028	18.012	0.016	17.676	0.010	17.535	0.025	17.504	0.023	41.7	C
2185-53532-427	250.1687622	36.572681	-245.7	2.7	5791	30	3.54	0.14	-1.70	0.05	19.039	0.028	18.001	0.016	17.651	0.010	17.513	0.025	17.502	0.023	42.6	C
2185-53532-428	250.2005005	36.620838	-246.8	5.8	6120	32	4.18	0.22	-1.64	0.06	20.088	0.052	19.180	0.018	18.904	0.013	18.803	0.027	18.857	0.049	19.8	C
2185-53532-430	250.1428375	36.630520	-254.5	8.5	6135	66	3.65	0.32	-1.71	0.05	20.498	0.069	19.686	0.020	19.390	0.015	19.260	0.029	19.261	0.065	14.0	C
2185-53532-431	250.1810608	36.514454	-238.9	9.4	6053	63	3.98	0.21	-1.54	0.05	20.878	0.089	19.867	0.018	19.579	0.029	19.476	0.031	19.338	0.096	12.4	D
2185-53532-433	250.0788116	36.418709	-255.3	9.4	5716	44	3.23	0.20	-1.76	0.09	20.554	0.097	19.927	0.023	19.551	0.025	19.440	0.035	19.383	0.082	12.4	C
2185-53532-435	250.1384125	36.391571	-240.0	5.7	6248	46	3.80	0.25	-1.61	0.01	19.844	0.049	19.031	0.011	18.786	0.020	18.722	0.019	18.740	0.046	22.1	D
2185-53532-439	250.0806732	36.503437	-240.7	2.7	6065	58	3.44	0.15	-1.72	0.04	19.071	0.029	18.125	0.016	17.847	0.010	17.698	0.025	17.728	0.025	40.1	C
2185-53532-440	250.1068573	36.427521	-232.5	9.0	6083	68	3.88	0.32	-1.60	0.05	20.627	0.077	19.727	0.015	19.447	0.031	19.343	0.028	19.339	0.072	13.1	D
2185-53532-461	250.3284149	36.700005	-241.4	3.6	6241	41	3.78	0.21	-1.65	0.03	19.297	0.046	18.368	0.010	18.134	0.011	18.035	0.016	18.070	0.035	34.0	D
2185-53532-462	250.2369232	36.717884	-248.1	2.7	6131	40	3.60	0.17	-1.72	0.04	19.099	0.035	18.194	0.018	17.921	0.019	17.836	0.015	17.858	0.025	38.6	C
2185-53532-464	250.2901764	36.685863	-236.5	8.7	6169	34	3.82	0.26	-1.63	0.03	20.450	0.092	19.434	0.018	19.158	0.017	19.129	0.028	19.060	0.063	16.9	D
2185-53532-466	250.2878876	36.725266	-245.5	5.2	6329	49	3.73	0.13	-1.48	0.04	19.695	0.047	18.790	0.019	18.593	0.020	18.451	0.017	18.533	0.036	23.1	C
2185-53532-469	250.2945404	36.606640	-246.2	5.8	6244	50	3.33	0.01	-1.71	0.08	19.871	0.052	18.983	0.010	18.750	0.012	18.639	0.015	18.611	0.044	20.0	D
2185-53532-473	250.2791901	36.576611	-238.6	6.2	6264	40	4.21	0.26	-1.54	0.03	20.229	0.066	19.259	0.015	18.993	0.024	18.923	0.032	18.988	0.078	19.6	D
2185-53532-475	250.2398529	36.588871	-249.1	4.1	6249	44	3.61	0.22	-1.69	0.05	19.458	0.035	18.585	0.017	18.293	0.011	18.234	0.026	18.309	0.034	30.2	C
2185-53532-476	250.2485657	36.574799	-244.4	5.8	6187	69	3.56	0.21	-1.77	0.07	19.946	0.045	19.062	0.018	18.738	0.014	18.688	0.039	18.636	0.049	22.1	C
2185-53532-477	250.2305450	36.610828	-244.1	7.2	6064	25	4.19	0.28	-1.72	0.04	20.596	0.074	19.570	0.019	19.259	0.015	19.181	0.028	19.354	0.072	15.2	C
2185-53532-478	250.2751617	36.618698	-243.6	5.3	6143	62	3.91	0.20	-1.73	0.02	19.860	0.062	19.009	0.019	18.698	0.023	18.600	0.017	18.588	0.041	24.0	D
2185-53532-479	250.2099609	36.532490	-251.3	6.8	6060	46	3.94	0.32	-1.71	0.03	20.310	0.067	19.447	0.018	19.116	0.032	19.055	0.023	18.990	0.073	16.9	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\text{log } g}$ (dex)	[Fe/H]	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2185-53532-480	250.2232056	36.626942	-243.0	7.3	6244	14	3.57	0.49	-1.64	0.02	20.524	0.070	19.678	0.020	19.378	0.015	19.245	0.029	19.438	0.077	13.9	C
2185-53532-481	250.3259277	36.655441	-244.6	3.1	6170	26	3.59	0.23	-1.62	0.04	19.163	0.042	18.195	0.008	17.925	0.012	17.799	0.011	17.754	0.030	36.8	D
2185-53532-482	250.4379120	36.601913	-233.6	3.0	5952	22	3.48	0.17	-1.75	0.04	19.078	0.031	18.100	0.008	17.789	0.010	17.664	0.009	17.626	0.022	40.4	D
2185-53532-483	250.4119263	36.610191	-252.1	5.5	6296	39	3.71	0.21	-1.50	0.04	20.044	0.057	19.130	0.014	18.865	0.013	18.788	0.019	18.737	0.044	20.6	D
2185-53532-485	250.3427429	36.637764	-248.3	3.9	6323	42	3.90	0.07	-1.77	0.00	19.273	0.037	18.446	0.011	18.216	0.009	18.074	0.012	18.103	0.027	31.9	D
2185-53532-486	250.3913116	36.619122	-259.7	6.2	6235	82	4.27	0.35	-1.68	0.05	20.186	0.068	19.404	0.018	19.172	0.013	19.062	0.023	18.997	0.045	17.2	D
2185-53532-487	250.3905029	36.591457	-242.1	3.5	6295	33	3.60	0.15	-1.60	0.04	19.234	0.029	18.319	0.010	18.048	0.009	17.979	0.014	17.950	0.028	34.7	D
2185-53532-488	250.3802643	36.661861	-239.6	8.3	6428	103	4.06	0.48	-1.78	0.07	20.203	0.066	19.547	0.019	19.277	0.018	19.123	0.021	19.159	0.052	14.7	D
2185-53532-489	250.3863983	36.711922	-244.6	5.4	6258	67	3.68	0.36	-1.64	0.04	19.918	0.068	19.029	0.013	18.812	0.013	18.694	0.016	18.595	0.033	22.4	D
2185-53532-490	250.4195862	36.592098	-242.2	7.2	6127	59	4.31	0.08	-1.58	0.06	20.221	0.059	19.343	0.016	19.073	0.013	18.976	0.019	18.996	0.052	18.0	D
2185-53532-492	250.3582611	36.607357	-240.5	3.0	6125	19	3.49	0.24	-1.70	0.03	19.045	0.024	18.167	0.015	17.882	0.011	17.768	0.009	17.794	0.024	38.9	D
2185-53532-493	250.3370056	36.581230	-238.1	3.4	6245	45	3.84	0.22	-1.77	0.05	19.312	0.036	18.347	0.013	18.128	0.010	18.017	0.014	18.041	0.032	35.0	D
2185-53532-494	250.4333649	36.619698	-243.8	7.4	6144	23	3.44	0.32	-1.67	0.03	20.174	0.065	19.210	0.013	18.923	0.014	18.859	0.019	18.894	0.052	19.9	D
2185-53532-495	250.3131714	36.642708	-242.4	4.7	6284	40	3.47	0.25	-1.71	0.04	19.455	0.047	18.657	0.012	18.427	0.012	18.324	0.015	18.313	0.031	28.4	D
2185-53532-496	250.3283539	36.603851	-245.6	7.8	5989	90	3.64	0.44	-1.44	0.04	20.863	0.109	19.899	0.020	19.567	0.017	19.450	0.028	19.535	0.088	12.0	D
2185-53532-497	250.3796539	36.606239	-237.6	9.2	5952	54	4.07	0.31	-1.76	0.01	20.532	0.080	19.585	0.025	19.265	0.015	19.172	0.022	19.103	0.063	15.0	D
2185-53532-498	250.4183960	36.693439	-235.1	4.5	6306	27	3.72	0.38	-1.80	0.04	19.446	0.039	18.689	0.010	18.422	0.012	18.329	0.014	18.354	0.028	28.1	D
2185-53532-499	250.3423157	36.618721	-230.3	4.9	6278	35	3.73	0.16	-1.66	0.01	19.546	0.036	18.733	0.015	18.504	0.011	18.394	0.015	18.389	0.040	27.2	D
2185-53532-500	250.3634491	36.578873	-245.5	3.1	6318	74	4.25	0.15	-1.72	0.05	19.902	0.061	19.108	0.027	18.914	0.019	18.767	0.022	18.750	0.053	40.8	D
2185-53532-504	250.5587463	36.680569	-250.2	4.4	6325	42	3.75	0.12	-1.85	0.02	19.554	0.034	18.726	0.021	18.501	0.020	18.412	0.021	18.440	0.031	27.7	C
2185-53532-506	250.5240936	36.660801	-245.8	2.4	5845	42	3.47	0.12	-1.71	0.03	19.015	0.028	18.036	0.012	17.664	0.008	17.523	0.012	17.466	0.024	44.7	D
2185-53532-507	250.4723969	36.677731	-243.3	5.5	6098	34	3.32	0.15	-1.76	0.01	20.066	0.052	19.165	0.015	18.864	0.016	18.787	0.018	18.753	0.054	20.9	D
2185-53532-508	250.4435272	36.712978	-249.1	4.5	6463	164	3.95	0.14	-1.66	0.05	19.964	0.068	18.999	0.014	18.832	0.027	18.655	0.020	18.641	0.040	23.6	D
2185-53532-511	250.5202179	36.342960	-246.4	7.2	6106	106	4.44	0.07	-1.59	0.06	20.737	0.090	19.856	0.022	19.564	0.019	19.425	0.023	19.289	0.062	16.4	D
2185-53532-512	250.5370789	36.365250	-250.5	3.4	6233	35	3.70	0.16	-1.67	0.02	19.188	0.025	18.258	0.010	18.006	0.012	17.889	0.009	17.891	0.022	37.8	D
2185-53532-513	250.5628357	36.372688	-246.0	4.8	6231	37	3.49	0.25	-1.69	0.03	19.772	0.044	18.920	0.012	18.648	0.015	18.591	0.012	18.575	0.042	25.6	D
2185-53532-514	250.5161896	36.359978	-237.8	5.1	6252	49	3.82	0.37	-1.56	0.05	20.241	0.072	19.263	0.016	19.009	0.013	18.924	0.017	18.878	0.037	21.0	D
2185-53532-515	250.5661469	36.400230	-246.4	5.2	6288	63	3.79	0.20	-1.66	0.03	19.793	0.041	18.936	0.013	18.700	0.015	18.619	0.016	18.663	0.038	24.4	D
2185-53532-516	250.4558868	36.613400	-239.8	9.3	5977	68	3.73	0.26	-1.47	0.06	20.761	0.093	19.869	0.017	19.571	0.020	19.407	0.025	19.355	0.070	12.6	D
2185-53532-517	250.4772949	36.625591	-258.4	9.6	6020	171	3.73	0.17	-1.38	0.09	20.828	0.104	19.904	0.019	19.589	0.022	19.427	0.023	19.427	0.071	12.2	D
2185-53532-519	250.5725555	36.425186	-246.3	5.0	6300	48	4.20	0.11	-1.74	0.05	19.811	0.046	18.973	0.012	18.742	0.016	18.625	0.012	18.631	0.039	25.6	D
2185-53532-520	250.5612183	36.355461	-249.8	3.3	6245	34	3.14	0.31	-1.84	0.03	19.377	0.030	18.398	0.013	18.137	0.016	18.066	0.012	18.042	0.025	34.9	D
2185-53532-534	250.3009644	36.802814	-252.8	4.3	6281	48	3.65	0.17	-1.84	0.05	19.461	0.040	18.601	0.019	18.320	0.019	18.258	0.016	18.246	0.031	29.9	C
2185-53532-537	250.4304962	36.822891	-241.4	4.9	6308	38	3.82	0.20	-1.69	0.03	19.586	0.035	18.767	0.016	18.509	0.017	18.452	0.019	18.420	0.030	27.0	C

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2185-53532-539	250.3805847	36.807693	-250.8	6.8	6095	63	4.13	0.25	-1.90	0.04	20.379	0.077	19.508	0.021	19.230	0.022	19.115	0.022	19.159	0.057	16.0	C
2185-53532-540	250.3366394	36.751308	-232.9	6.8	6323	59	4.28	0.26	-1.74	0.05	19.990	0.057	19.204	0.020	18.951	0.021	18.848	0.020	18.930	0.047	19.2	C
2185-53532-541	250.6444855	36.637691	-226.9	11.4	5839	34	4.26	0.32	-1.62	0.04	20.773	0.072	19.867	0.024	19.544	0.023	19.389	0.026	19.418	0.058	12.2	C
2185-53532-542	250.6344757	36.460258	-237.9	6.9	5962	89	3.85	0.08	-1.91	0.07	20.383	0.063	19.432	0.017	19.120	0.013	18.998	0.018	19.031	0.048	17.5	D
2185-53532-543	250.6009674	36.613602	-252.6	3.4	6161	52	3.43	0.24	-1.69	0.02	19.206	0.034	18.284	0.010	18.018	0.009	17.916	0.009	17.883	0.032	36.7	D
2185-53532-544	250.6094360	36.447392	-247.7	5.2	6269	28	3.51	0.24	-1.55	0.04	19.889	0.056	18.847	0.011	18.604	0.011	18.524	0.012	18.525	0.047	24.0	D
2185-53532-545	250.6271667	36.714451	-242.1	5.7	6326	51	4.05	0.14	-1.55	0.07	19.959	0.042	19.061	0.021	18.769	0.021	18.692	0.022	18.698	0.035	21.3	C
2185-53532-546	250.6421814	36.477982	-255.6	8.9	5739	4	4.18	0.27	-1.65	0.06	20.690	0.084	19.915	0.017	19.595	0.021	19.414	0.025	19.522	0.054	13.1	D
2185-53532-547	250.6228180	36.621357	-256.3	8.6	5914	121	2.91	0.70	-1.78	0.10	20.703	0.069	19.909	0.024	19.549	0.023	19.443	0.026	19.483	0.062	12.4	C
2185-53532-548	250.6524048	36.419621	-253.1	9.7	6012	3	3.96	0.34	-1.52	0.07	20.863	0.104	19.959	0.023	19.598	0.020	19.508	0.036	19.689	0.077	11.4	D
2185-53532-549	250.5913239	36.461399	-235.9	6.0	5839	45	4.16	0.32	-1.47	0.04	20.358	0.070	19.507	0.018	19.125	0.018	18.983	0.018	19.018	0.053	16.3	D
2185-53532-550	250.6149445	36.501305	-236.0	8.3	6162	76	4.44	0.21	-1.87	0.04	20.535	0.083	19.738	0.019	19.452	0.022	19.298	0.021	19.271	0.073	14.3	D
2185-53532-551	250.5914764	36.413662	-233.6	10.1	5810	221	4.09	0.03	-1.62	0.08	20.801	0.088	19.909	0.022	19.599	0.024	19.432	0.023	19.459	0.078	12.1	D
2185-53532-552	250.6224670	36.431900	-257.2	5.7	6376	50	4.01	0.16	-1.79	0.05	19.709	0.046	18.899	0.012	18.648	0.016	18.577	0.014	18.586	0.032	22.8	D
2185-53532-553	250.6461029	36.350220	-246.2	3.0	5795	33	3.74	0.13	-1.76	0.03	18.992	0.023	18.065	0.011	17.731	0.026	17.574	0.017	17.546	0.027	42.4	D
2185-53532-554	250.6182556	36.410843	-246.9	3.7	6223	26	3.99	0.08	-1.77	0.01	19.214	0.027	18.347	0.012	18.078	0.012	17.980	0.010	17.943	0.026	34.9	D
2185-53532-555	250.6027374	36.400173	-244.6	7.2	6037	43	3.75	0.17	-1.74	0.05	20.206	0.061	19.342	0.019	19.039	0.020	18.928	0.017	18.870	0.037	18.5	D
2185-53532-556	250.6363068	36.383652	-246.2	7.1	6149	40	4.16	0.09	-1.70	0.05	20.239	0.061	19.376	0.018	19.095	0.026	18.999	0.022	18.989	0.054	17.9	D
2185-53532-557	250.6013031	36.364738	-244.7	4.7	6351	67	3.37	0.24	-1.91	0.05	19.594	0.041	18.690	0.014	18.424	0.022	18.341	0.014	18.371	0.036	27.8	D
2185-53532-558	250.5827942	36.475479	-250.0	3.9	6244	30	3.77	0.13	-1.61	0.05	19.441	0.038	18.577	0.009	18.313	0.014	18.211	0.012	18.238	0.035	30.4	D
2185-53532-559	250.6181030	36.472069	-243.7	4.6	6356	27	4.12	0.15	-1.60	0.05	19.829	0.049	18.915	0.011	18.661	0.012	18.552	0.012	18.572	0.037	24.3	D
2185-53532-560	250.5843353	36.379768	-239.9	3.6	6282	26	3.61	0.20	-1.71	0.04	19.275	0.032	18.421	0.013	18.160	0.017	18.084	0.011	18.069	0.033	33.7	D
2185-53532-575	250.6388245	36.796120	-234.8	9.8	6018	68	2.70	0.08	-1.57	0.02	20.664	0.066	19.769	0.024	19.420	0.023	19.330	0.025	19.194	0.049	13.6	C
2185-53532-577	250.5796356	36.790611	-258.5	5.1	6206	33	3.87	0.21	-1.74	0.04	20.035	0.043	19.163	0.017	18.903	0.018	18.808	0.020	18.856	0.039	20.6	C
2185-53532-581	250.7305756	36.608727	-244.4	5.3	6173	60	4.14	0.31	-1.55	0.04	20.194	0.051	19.299	0.018	19.003	0.017	18.911	0.019	18.871	0.041	19.1	C
2185-53532-584	250.6747742	36.539852	-253.1	6.6	6195	112	3.21	0.58	-1.70	0.04	20.045	0.054	19.257	0.014	19.058	0.022	18.904	0.015	18.910	0.042	18.7	D
2185-53532-585	250.6607666	36.504436	-234.5	5.8	6115	29	3.84	0.34	-1.76	0.02	20.130	0.050	19.137	0.014	18.847	0.015	18.771	0.015	18.751	0.045	21.0	D
2185-53532-587	250.7492065	36.463837	-241.4	10.1	6054	60	4.29	0.12	-1.78	0.01	20.730	0.084	19.806	0.023	19.513	0.019	19.384	0.028	19.325	0.070	13.0	D
2185-53532-589	250.7702637	36.421120	-243.9	5.7	6281	43	3.32	0.31	-1.59	0.04	19.926	0.059	18.974	0.012	18.733	0.027	18.636	0.026	18.609	0.045	22.7	D
2185-53532-591	250.6871948	36.405094	-251.7	4.8	6362	17	3.58	0.31	-1.65	0.06	19.683	0.049	18.773	0.013	18.545	0.021	18.450	0.025	18.401	0.036	26.4	D
2185-53532-592	250.7585297	36.405731	-239.1	7.2	6131	81	2.60	0.63	-1.66	0.07	20.429	0.072	19.454	0.015	19.207	0.034	19.055	0.029	19.097	0.065	16.1	D
2185-53532-593	250.6662598	36.387859	-243.3	4.9	6312	51	4.10	0.35	-1.47	0.02	19.744	0.043	18.893	0.012	18.664	0.023	18.595	0.019	18.602	0.035	24.2	D
2185-53532-594	250.6430359	36.701591	-234.3	8.3	6109	42	3.92	0.32	-1.42	0.09	20.327	0.053	19.523	0.023	19.230	0.022	19.155	0.024	19.155	0.048	15.5	C
2185-53532-596	250.6537323	36.525860	-238.8	8.5	5816	196	3.16	0.35	-1.55	0.09	20.792	0.102	19.876	0.020	19.519	0.022	19.398	0.028	19.449	0.078	12.5	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\text{log } g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2185-53532-598	250.7378235	36.401535	-250.2	7.6	6239	64	4.30	0.16	-1.45	0.06	20.290	0.061	19.415	0.020	19.153	0.024	19.029	0.030	19.116	0.057	16.8	D
2185-53532-599	250.6560211	36.458805	-245.4	6.3	6211	61	3.96	0.27	-1.66	0.06	20.251	0.060	19.391	0.017	19.128	0.016	19.020	0.021	19.036	0.052	17.0	D
2185-53532-600	250.7173309	36.396912	-237.5	8.5	6022	108	3.94	0.23	-1.51	0.05	20.705	0.080	19.845	0.019	19.542	0.029	19.409	0.035	19.320	0.052	12.3	D
2255-53565-103	250.6466827	36.307610	-247.7	5.4	5747	52	3.32	0.16	-1.58	0.03	19.032	0.029	17.974	0.014	17.591	0.020	17.473	0.020	17.406	0.021	22.1	C
2255-53565-112	250.6490173	36.331844	-239.9	4.1	5005	93	2.35	0.12	-1.54	0.05	16.672	0.009	15.225	0.012	14.589	0.036	14.342	0.020	14.208	0.032	20.6	D
2255-53565-114	250.5359039	36.338322	-242.7	3.0	5421	40	3.17	0.08	-1.58	0.05	18.277	0.017	17.080	0.012	16.614	0.012	16.406	0.012	16.316	0.014	37.2	D
2255-53565-115	250.6161957	36.345905	-243.4	4.7	5729	33	3.33	0.17	-1.56	0.02	18.997	0.023	17.934	0.014	17.540	0.021	17.371	0.015	17.320	0.024	24.5	D
2255-53565-116	250.5545197	36.267830	-249.5	1.8	5268	61	2.85	0.13	-1.56	0.03	17.536	0.016	16.291	0.009	15.751	0.011	15.525	0.012	15.420	0.014	52.2	D
2255-53565-120	250.6273346	36.330883	-252.1	1.7	5115	60	2.45	0.14	-1.70	0.02	16.892	0.009	15.525	0.009	14.939	0.029	14.695	0.020	14.572	0.032	61.8	D
2255-53565-143	250.5123444	36.306122	-229.4	3.2	5205	52	2.41	0.08	-1.70	0.06	17.321	0.016	15.959	0.011	15.415	0.011	15.186	0.015	15.077	0.018	57.5	D
2255-53565-144	250.4085236	36.303902	-246.9	1.6	5190	33	2.34	0.17	-1.56	0.04	16.969	0.016	15.567	0.015	15.044	0.019	14.809	0.016	14.669	0.025	60.4	D
2255-53565-147	250.4520111	36.301800	-249.1	1.7	9173	191	3.39	0.13	-1.53	0.22	16.226	0.009	15.108	0.010	15.357	0.007	15.544	0.006	15.655	0.014	61.3	D
2255-53565-148	250.4909821	36.308311	-241.8	1.7	5150	44	2.30	0.05	-1.73	0.05	17.218	0.012	15.819	0.007	15.262	0.011	15.023	0.011	14.927	0.013	58.9	D
2255-53565-153	250.4041443	36.351501	-249.1	1.5	5172	53	2.40	0.10	-1.68	0.05	17.099	0.019	15.684	0.008	15.120	0.024	14.896	0.015	14.768	0.013	60.0	D
2255-53565-157	250.4288635	36.330101	-245.4	1.5	5054	58	2.33	0.12	-1.56	0.02	16.562	0.015	15.107	0.007	14.484	0.025	19.375	...	14.080	0.017	65.9	B
2255-53565-171	250.3690338	36.363800	-255.4	1.4	5126	48	2.10	0.14	-1.61	0.05	16.822	0.018	15.354	0.007	14.765	0.030	14.297	...	14.400	0.015	63.7	B
2255-53565-173	250.3810425	36.249397	-236.2	4.1	5392	83	3.57	0.14	-1.73	0.05	18.744	0.022	17.636	0.012	17.183	0.014	16.985	0.026	16.908	0.020	28.3	D
2255-53565-174	250.3135834	36.387798	-246.1	1.7	8548	132	3.30	0.12	-1.62	0.06	16.116	0.017	14.916	0.008	15.092	0.016	15.243	0.046	15.344	0.016	58.6	D
2255-53565-175	250.3260651	36.347099	-242.6	1.7	5159	38	2.55	0.11	-1.50	0.03	17.115	0.020	15.730	0.005	15.165	0.027	14.930	0.013	14.818	0.015	57.4	D
2255-53565-177	250.3200226	36.326900	-236.2	1.6	8661	160	3.28	0.12	-1.60	0.02	16.066	0.022	14.865	0.010	15.062	0.014	15.224	0.009	15.309	0.019	63.4	D
2255-53565-192	250.1939392	36.281242	-240.1	1.7	8931	180	3.43	0.13	-1.74	0.08	16.190	0.018	15.083	0.016	15.300	0.018	15.476	0.025	15.599	0.018	61.0	C
2255-53565-423	250.1767273	36.542747	-249.4	1.9	8897	200	3.56	0.13	-1.63	0.12	16.206	0.015	15.114	0.015	15.316	0.009	15.523	0.025	15.658	0.018	60.5	C
2255-53565-424	250.3054199	36.463902	-251.1	4.7	5622	49	3.45	0.14	-1.57	0.04	18.874	0.023	17.789	0.011	17.365	0.009	17.186	0.022	17.126	0.032	21.3	D
2255-53565-425	250.2703552	36.638271	-256.3	4.7	5733	42	3.50	0.14	-1.39	0.03	18.971	0.034	17.915	0.010	17.519	0.012	17.339	0.013	17.268	0.024	23.7	D
2255-53565-426	250.3145905	36.517399	-244.4	1.3	5268	58	2.41	0.07	-1.42	0.05	16.976	0.009	15.535	0.012	14.964	0.006	14.720	0.011	14.599	0.012	61.5	D
2255-53565-432	250.2229156	36.471901	-251.6	5.3	5731	60	3.33	0.16	-1.57	0.03	19.060	0.024	17.981	0.011	17.592	0.015	17.432	0.017	17.360	0.034	22.4	D
2255-53565-436	250.3080750	36.417400	-241.8	3.8	5342	120	3.58	0.29	-1.52	0.25	21.007	0.108	20.193	0.022	19.824	0.025	19.688	0.046	19.560	0.095	22.4	B
2255-53565-437	250.2912445	36.512798	-253.3	3.8	5559	52	3.22	0.21	-1.64	0.05	18.666	0.027	17.471	0.009	17.017	0.008	16.851	0.009	16.763	0.018	28.9	D
2255-53565-443	250.2730255	36.837120	-254.7	1.9	9071	205	3.38	0.08	-1.47	0.21	16.212	0.022	15.040	0.017	15.278	0.018	15.428	0.013	15.560	0.018	61.0	C
2255-53565-465	250.4421692	36.429199	-245.7	1.8	8937	187	3.34	0.12	-1.47	0.07	16.131	0.008	14.989	0.019	15.222	0.026	15.385	0.028	15.478	0.014	62.2	D
2255-53565-466	250.8296051	36.382706	-257.7	4.5	5580	39	3.20	0.11	-1.57	0.03	18.922	0.029	17.856	0.020	17.465	0.019	17.279	0.016	17.194	0.022	24.4	C
2255-53565-476	250.5411072	36.356194	-243.8	2.9	5476	50	3.15	0.19	-1.52	0.02	18.358	0.017	17.172	0.009	16.703	0.009	16.499	0.009	16.399	0.015	36.3	D
2255-53565-482	250.3339233	36.614510	-250.0	1.7	8553	151	3.30	0.06	-1.42	0.07	16.067	0.014	14.867	0.015	15.037	0.005	15.205	0.014	15.269	0.014	63.9	D
2255-53565-483	250.3755646	36.591225	-252.2	1.3	5186	82	2.56	0.14	-1.49	0.01	16.561	0.008	15.126	0.014	14.509	0.003	14.228	0.012	14.112	0.009	65.2	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\text{log } g}$ (dex)	[Fe/H]	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2255-53565-485	250.3701477	36.529301	-255.1	1.3	5251	56	2.42	0.11	-1.48	0.07	17.004	0.008	15.581	0.009	15.020	0.007	14.752	0.007	14.648	0.012	60.3	D
2255-53565-486	250.3162231	36.554901	-243.1	4.6	5199	97	2.29	0.17	-1.53	0.06	16.710	0.014	15.229	0.004	14.626	0.007	14.349	0.012	14.225	0.009	21.3	D
2255-53565-490	250.3626251	36.566055	-244.7	1.9	5463	67	3.10	0.07	-1.48	0.04	17.559	0.012	16.279	0.007	15.765	0.004	15.528	0.011	15.444	0.010	50.9	D
2255-53565-492	250.3980865	36.604641	-238.0	8.1	8615	177	3.39	0.03	-1.49	0.11	16.109	0.008	14.892	0.011	15.089	0.006	15.219	0.011	15.309	0.012	18.8	D
2255-53565-495	250.4893951	36.387501	-235.2	3.0	4948	83	1.97	0.18	-1.50	0.04	16.279	0.007	14.660	0.022	14.030	0.021	13.682	0.007	13.512	0.013	30.7	D
2255-53565-496	250.3888550	36.541199	-248.9	3.3	5092	71	2.43	0.07	-1.52	0.06	16.422	0.009	14.850	0.007	14.226	0.010	13.924	0.007	13.797	0.007	29.4	D
2255-53565-504	250.4202271	36.569801	-248.5	2.5	5035	71	2.35	0.09	-1.36	0.04	16.133	0.012	14.477	0.005	13.840	0.014	13.466	0.006	13.336	0.009	34.4	D
2255-53565-510	250.4507599	36.594837	-248.2	1.6	5276	70	2.43	0.13	-1.45	0.05	17.021	0.015	15.630	0.005	15.054	0.016	14.802	0.006	14.704	0.009	59.7	D
2255-53565-512	250.5457611	36.409199	-234.9	4.3	5225	90	2.54	0.06	-1.54	0.05	16.579	0.015	15.122	0.006	14.522	0.012	14.244	0.011	14.131	0.013	22.2	D
2255-53565-515	250.4537811	36.534698	-252.9	1.4	5280	77	2.68	0.09	-1.47	0.13	17.180	0.014	15.727	0.008	15.183	0.012	14.928	0.026	14.822	0.010	58.6	D
2255-53565-518	250.4944153	36.462898	-235.9	3.1	5228	69	2.80	0.22	-1.45	0.04	21.616	0.186	20.561	0.035	20.105	0.039	19.949	0.044	20.205	0.144	27.9	B
2255-53565-520	250.4719238	36.423100	-241.2	3.7	5268	87	2.42	0.16	-1.47	0.07	16.509	0.009	14.930	0.015	14.328	0.026	14.102	0.020	13.952	0.011	26.5	D
2255-53565-542	250.5714569	36.525902	-246.9	1.3	5273	77	2.37	0.08	-1.40	0.06	16.957	0.012	15.503	0.010	14.919	0.014	14.665	0.014	14.557	0.011	62.4	D
2255-53565-543	250.5569153	36.554100	-251.1	1.3	5248	85	2.47	0.17	-1.48	0.06	16.996	0.013	15.576	0.009	14.972	0.010	14.737	0.016	14.599	0.010	62.1	D
2255-53565-544	250.5413818	36.495499	-249.4	4.5	5008	88	2.13	0.13	-1.73	0.06	16.595	0.013	15.131	0.015	14.525	0.019	14.250	0.026	14.123	0.021	23.5	D
2255-53565-545	250.6348267	36.499401	-242.7	1.4	5328	66	2.36	0.12	-1.39	0.03	16.919	0.014	15.473	0.007	14.882	0.018	14.643	0.009	14.520	0.011	61.6	D
2255-53565-548	250.5392151	36.566399	-245.2	1.5	5240	93	2.50	0.21	-1.38	0.05	16.883	0.014	15.410	0.009	14.782	0.015	14.543	0.011	14.394	0.012	63.4	D
2255-53565-550	250.5207062	36.526798	-246.5	1.6	5252	70	2.61	0.13	-1.50	0.02	17.079	0.012	15.725	0.013	15.152	0.016	14.906	0.018	14.783	0.008	59.5	D
2255-53565-551	250.6084442	36.451298	-243.3	1.4	5170	89	2.59	0.14	-1.46	0.02	16.624	0.012	15.229	0.006	14.614	0.009	14.349	0.010	14.230	0.016	65.3	D
2255-53565-552	250.5690155	36.416199	-241.4	2.6	5040	65	1.84	0.12	-1.42	0.02	16.214	0.011	14.555	0.005	13.916	0.034	13.597	0.012	13.457	0.013	34.5	D
2255-53565-553	250.5565186	36.476799	-239.5	1.5	5251	58	2.45	0.12	-1.44	0.05	16.817	0.014	15.382	0.007	14.797	0.025	14.546	0.016	14.440	0.027	64.2	D
2255-53565-556	250.5987854	36.482475	-247.3	2.9	5571	63	3.08	0.10	-1.51	0.05	18.408	0.019	17.253	0.007	16.789	0.013	16.590	0.012	16.510	0.022	36.8	D
2255-53565-557	250.5689240	36.437099	-239.6	3.2	5227	105	2.50	0.13	-1.44	0.08	16.543	0.013	15.042	0.003	14.412	0.009	14.148	0.013	14.020	0.012	26.3	D
2255-53565-559	250.5143433	36.505001	-258.8	3.2	5158	87	1.85	0.15	-1.54	0.06	16.340	0.011	14.741	0.014	14.097	0.034	13.791	0.026	13.653	0.012	33.1	D
2255-53565-586	250.5887756	36.564800	-237.3	3.1	5215	90	1.75	0.15	-1.56	0.02	15.981	0.009	14.521	0.009	13.885	0.025	13.713	0.014	13.600	0.008	32.2	D
2255-53565-589	250.5795441	36.617599	-245.9	1.4	5188	80	2.29	0.14	-1.53	0.05	16.818	0.007	15.287	0.004	14.667	0.010	14.416	0.008	14.261	0.036	64.7	D
2255-53565-597	250.6601868	36.517498	-253.1	1.9	5399	56	2.85	0.09	-1.45	0.03	17.690	0.021	16.411	0.006	15.888	0.019	15.665	0.009	15.560	0.012	49.2	D
M71																						
2333-53682-077	298.59664	18.78314	-18.0	0.8	4643	186	2.54	0.21	-0.77	0.05	15.381	...	13.164	...	12.379	...	12.079	...	11.943	...	79.6	U
2333-53682-105	298.56809	18.84816	-22.1	1.1	5214	98	2.86	0.20	-0.79	0.03	15.202	...	13.707	...	13.165	...	12.984	...	12.935	...	63.3	U
2333-53682-144	298.45706	18.84689	-16.8	1.3	4798	116	2.33	0.10	-0.65	0.08	12.320	...	11.746	...	10.977	...	11.174	...	11.341	...	84.5	U
2333-53682-153	298.48777	18.86018	-24.2	2.5	5233	181	3.63	0.29	-0.68	0.05	15.310	...	14.052	...	13.608	...	13.498	...	13.497	...	29.8	U
2333-53682-167	298.46309	18.76964	-23.2	1.2	5122	58	2.74	0.16	-0.81	0.05	13.241	...	12.889	...	12.343	...	12.541	...	12.708	...	65.8	U
2333-53682-176	298.51460	18.78293	-20.1	1.2	5227	65	2.90	0.10	-0.84	0.05	13.180	...	12.829	...	12.282	...	12.479	...	12.646	...	66.0	U

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\text{log } g}$ (dex)	[Fe/H]	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2333-53682-178	298.52807	18.76042	-22.0	1.3	5216	114	2.87	0.18	-0.77	0.05	15.328	...	13.874	...	13.329	...	13.164	...	13.121	...	64.1	U
2333-53682-183	298.43222	18.79267	-11.0	1.0	4676	128	2.56	0.15	-0.77	0.05	12.561	...	11.842	...	10.928	...	11.125	...	11.292	...	84.6	U
2333-53682-191	298.42406	18.81066	-22.8	1.5	4878	132	2.83	0.11	-0.79	0.01	16.326	0.017	14.282	0.007	13.512	0.007	13.135	0.008	13.016	0.012	62.3	D
2333-53682-193	298.35753	18.84261	-19.2	1.4	5198	112	2.68	0.08	-0.81	0.05	15.844	0.012	14.170	0.006	13.556	0.007	13.301	0.007	13.234	0.009	60.8	D
2333-53682-198	298.45609	18.72024	-19.7	1.6	4963	83	3.22	0.07	-0.75	0.02	16.303	0.014	14.494	0.006	13.850	0.008	13.579	0.010	13.505	0.014	52.0	D
2333-53682-228	298.43161	18.71046	-25.0	2.6	4982	91	2.87	0.13	-0.80	0.04	16.190	0.014	14.357	0.007	13.699	0.013	13.446	0.007	13.381	0.012	57.0	D
2333-53682-229	298.41520	18.69626	-21.0	2.5	4914	36	2.95	0.09	-0.78	0.04	16.287	0.013	14.488	0.004	13.831	0.007	13.576	0.011	13.512	0.011	54.8	D
2338-53683-142	298.51727	18.80103	-27.7	1.9	5131	68	3.17	0.23	-0.76	0.06	17.103	...	15.298	...	14.693	...	14.557	...	14.591	...	39.3	U
2338-53683-186	298.44616	18.70557	-23.1	1.8	5144	121	3.44	0.06	-0.86	0.03	16.876	0.016	15.236	0.005	14.608	0.010	14.350	0.013	14.289	0.013	44.2	D
2338-53683-199	298.36670	18.78481	-22.3	1.9	5260	119	3.73	0.15	-0.82	0.06	17.108	0.014	15.533	0.005	14.905	0.008	14.614	0.010	14.567	0.010	38.2	D
2338-53683-200	298.44854	18.76227	-20.7	1.2	4993	80	3.21	0.06	-0.84	0.03	16.294	0.012	14.561	0.013	13.912	0.008	13.646	0.008	13.577	0.010	57.6	D
NGC 2420																						
2078-53378-111	114.7337700	21.533043	77.4	1.8	5815	39	4.41	0.07	-0.36	0.03	18.285	0.014	17.058	0.006	16.656	0.010	16.547	0.007	16.502	0.012	34.1	D
2078-53378-114	114.7632300	21.450647	76.4	1.8	5976	29	4.22	0.08	-0.37	0.01	17.894	0.016	16.719	0.005	16.382	0.009	16.282	0.009	16.278	0.009	41.4	D
2078-53378-116	114.7709500	21.494594	79.6	3.1	4988	54	4.62	0.03	-0.51	0.08	19.954	0.047	18.342	0.009	17.712	0.011	17.518	0.010	17.369	0.019	18.1	D
2078-53378-118	114.7213000	21.550411	76.1	2.6	5230	41	4.70	0.08	-0.45	0.05	19.602	0.034	18.035	0.008	17.469	0.011	17.296	0.008	17.193	0.015	21.8	D
2078-53378-142	114.6714600	21.474437	73.9	2.0	5725	41	4.41	0.06	-0.40	0.01	18.476	0.015	17.193	0.006	16.778	0.015	16.654	0.010	16.618	0.012	32.6	D
2078-53378-149	114.6430600	21.448729	74.1	1.1	6700	23	3.95	0.08	-0.35	0.03	16.072	0.008	15.001	0.004	14.822	0.006	14.801	0.006	14.834	0.009	62.9	D
2078-53378-150	114.6955000	21.390019	76.9	1.9	5836	16	4.37	0.06	-0.41	0.02	18.113	0.020	16.954	0.004	16.564	0.005	16.436	0.011	16.367	0.011	37.0	D
2078-53378-151	114.6724100	21.539542	76.9	1.8	6027	55	4.36	0.05	-0.34	0.02	17.820	0.017	16.667	0.007	16.332	0.007	16.240	0.007	16.238	0.011	41.8	D
2078-53378-152	114.6924200	21.552748	76.5	2.0	5161	66	4.51	0.08	-0.32	0.04	19.670	0.037	18.089	0.007	17.462	0.011	17.239	0.008	17.115	0.018	23.1	D
2078-53378-154	114.6604000	21.508270	74.1	2.2	5341	24	4.62	0.05	-0.32	0.03	19.401	0.028	17.901	0.006	17.369	0.014	17.197	0.010	17.100	0.016	24.4	D
2078-53378-156	114.7031100	21.515936	78.1	1.9	6005	57	4.36	0.05	-0.25	0.02	17.881	0.011	16.746	0.006	16.401	0.011	16.294	0.008	16.282	0.010	40.9	D
2078-53378-157	114.6541400	21.529307	73.9	1.7	5792	44	4.42	0.08	-0.27	0.01	18.285	0.017	17.055	0.005	16.670	0.009	16.568	0.007	16.528	0.012	35.7	D
2078-53378-158	114.6927300	21.469569	78.3	2.4	5210	57	4.62	0.07	-0.38	0.05	19.477	0.029	17.957	0.007	17.353	0.013	17.132	0.010	17.039	0.015	23.9	D
2078-53378-159	114.6708200	21.450686	75.6	1.3	6778	34	4.01	0.12	-0.31	0.03	16.291	0.008	15.227	0.005	15.048	0.010	15.019	0.005	15.054	0.008	60.9	D
2078-53378-161	114.5712400	21.543399	78.8	1.2	6759	52	3.88	0.15	-0.34	0.03	16.078	0.013	14.986	0.004	14.784	0.006	14.753	0.005	14.792	0.008	63.2	D
2078-53378-165	114.6024300	21.426910	76.3	2.9	5111	4	4.60	0.05	-0.43	0.01	19.862	0.044	18.232	0.009	17.645	0.011	17.452	0.009	17.386	0.021	19.8	D
2078-53378-166	114.5820400	21.519642	73.9	1.4	6561	31	4.27	0.08	-0.30	0.03	16.719	0.009	15.652	0.004	15.424	0.007	15.369	0.007	15.392	0.008	56.3	D
2078-53378-167	114.6017500	21.449791	73.4	1.6	5776	54	4.40	0.04	-0.38	0.04	18.119	0.014	16.953	0.005	16.578	0.008	16.461	0.009	16.446	0.011	37.4	D
2078-53378-168	114.6115600	21.318135	73.9	1.4	6512	41	4.12	0.12	-0.38	0.01	16.792	0.017	15.747	0.005	15.514	0.018	15.467	0.009	15.509	0.012	55.0	D
2078-53378-169	114.5819600	21.280654	78.6	1.1	6706	19	3.90	0.11	-0.29	0.01	15.538	0.016	14.487	0.012	14.284	0.008	14.258	0.009	14.328	0.015	66.8	C
2078-53378-170	114.6131300	21.505038	74.4	2.4	4963	95	4.35	0.03	-0.34	0.01	20.146	0.047	18.464	0.008	17.825	0.009	17.603	0.009	17.471	0.020	17.2	D
2078-53378-171	114.6198000	21.561135	75.2	2.0	5624	33	4.51	0.05	-0.38	0.03	18.767	0.025	17.451	0.009	17.006	0.008	16.852	0.009	16.798	0.012	30.6	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2078-53378-172	114.5688700	21.504909	74.2	1.7	5664	62	4.49	0.07	-0.21	0.01	18.631	0.020	17.336	0.006	16.895	0.009	16.754	0.008	16.736	0.011	31.6	D
2078-53378-173	114.6418000	21.560445	80.0	2.9	5146	96	4.74	0.17	-0.23	0.05	20.033	0.053	18.364	0.009	17.713	0.010	17.504	0.015	17.421	0.020	18.2	D
2078-53378-174	114.6008000	21.527756	75.4	2.1	5450	1	4.59	0.03	-0.26	0.04	19.384	0.030	17.904	0.007	17.369	0.008	17.183	0.010	17.131	0.019	21.3	D
2078-53378-175	114.6295500	21.542134	78.5	2.6	5296	42	4.46	0.04	-0.28	0.06	19.477	0.031	17.928	0.009	17.376	0.008	17.210	0.012	17.140	0.014	20.5	D
2078-53378-176	114.6416800	21.603818	74.8	1.2	6735	28	4.23	0.14	-0.38	0.02	15.988	0.007	14.933	0.006	14.746	0.011	14.713	0.006	14.769	0.010	63.4	D
2078-53378-177	114.6228200	21.586616	76.9	2.1	5399	53	4.60	0.03	-0.42	0.06	19.205	0.023	17.765	0.010	17.263	0.008	17.113	0.015	17.051	0.015	25.9	D
2078-53378-178	114.6506600	21.588241	78.6	2.4	5138	35	4.60	0.04	-0.46	0.05	19.721	0.030	18.145	0.009	17.552	0.012	17.358	0.011	17.292	0.022	21.0	D
2078-53378-179	114.5720900	21.569319	71.6	1.2	6756	19	4.04	0.12	-0.37	0.05	16.244	0.005	15.179	0.017	15.001	0.004	14.969	0.021	15.015	0.029	61.6	D
2078-53378-182	114.5458400	21.481654	78.0	1.4	6775	8	4.07	0.08	-0.33	0.04	15.898	0.009	14.824	0.004	14.654	0.016	14.639	0.007	14.679	0.007	63.5	D
2078-53378-186	114.5329300	21.496721	73.1	1.3	6866	55	3.94	0.09	-0.30	0.04	16.134	0.017	15.137	0.006	14.988	0.006	14.951	0.019	14.962	0.012	61.5	D
2078-53378-192	114.5202700	21.508390	73.9	1.8	5822	65	4.45	0.06	-0.31	0.04	18.291	0.019	17.111	0.006	16.727	0.007	16.612	0.018	16.558	0.015	34.7	D
2078-53378-194	114.4920900	21.528856	77.6	2.7	5462	57	4.47	0.06	-0.32	0.05	19.010	0.029	17.654	0.006	17.178	0.011	17.019	0.014	16.946	0.014	26.9	D
2078-53378-195	114.5080200	21.480667	73.3	1.3	6716	24	3.98	0.11	-0.29	0.02	16.446	0.021	15.411	0.006	15.235	0.011	15.195	0.028	15.211	0.012	58.2	D
2078-53378-197	114.5511100	21.571731	75.0	1.9	5783	44	4.44	0.07	-0.30	0.03	18.304	0.013	17.124	0.012	16.711	0.006	16.590	0.025	16.564	0.011	33.3	D
2078-53378-199	114.5634600	21.418985	75.1	1.4	6434	38	4.23	0.10	-0.31	0.03	16.988	0.010	15.905	0.012	15.658	0.018	15.591	0.008	15.601	0.013	53.3	D
2078-53378-200	114.5385000	21.543732	75.6	2.2	5307	33	4.59	0.05	-0.40	0.05	19.574	0.047	17.997	0.006	17.446	0.006	17.220	0.011	17.123	0.018	22.8	D
2078-53378-223	114.3904500	21.523255	71.4	1.5	6435	29	4.30	0.09	-0.31	0.01	16.951	0.019	15.876	0.007	15.636	0.023	15.544	0.040	15.581	0.016	53.3	D
2078-53378-224	114.4638600	21.543933	78.4	1.2	6775	21	3.92	0.07	-0.36	0.03	15.774	0.016	14.716	0.003	14.560	0.012	14.518	0.009	14.546	0.014	65.4	D
2078-53378-227	114.4512700	21.468901	74.7	1.7	5910	46	4.40	0.07	-0.22	0.02	18.129	0.029	16.910	0.008	16.555	0.023	16.436	0.039	16.405	0.018	37.4	D
2078-53378-232	114.4003400	21.434925	76.2	1.3	6762	30	3.99	0.10	-0.27	0.04	16.210	0.010	15.171	0.015	15.008	0.057	14.957	0.037	15.005	0.026	61.4	D
2078-53378-233	114.3611500	21.547221	78.7	1.8	5952	50	4.36	0.06	-0.36	0.04	17.864	0.018	16.699	0.008	16.367	0.021	16.241	0.042	16.244	0.019	41.5	D
2078-53378-235	114.4902200	21.548446	78.1	1.7	5731	85	4.20	0.10	-0.38	0.05	18.448	0.020	17.230	0.005	16.825	0.008	16.670	0.015	16.630	0.017	33.2	D
2078-53378-273	114.3406700	21.562316	76.3	3.0	5969	95	4.39	0.08	-0.38	0.05	17.996	0.022	16.812	0.010	16.446	0.007	16.360	0.018	16.318	0.017	18.2	C
2078-53378-422	114.4277900	21.642904	72.4	1.7	5450	28	4.53	0.05	-0.12	0.03	19.200	0.034	17.742	0.007	17.270	0.007	17.078	0.011	17.028	0.014	27.1	D
2078-53378-427	114.4302700	21.777520	73.9	1.6	5877	45	4.43	0.06	-0.18	0.01	18.177	0.022	16.962	0.013	16.597	0.009	16.451	0.011	16.488	0.023	38.7	C
2078-53378-431	114.4749200	21.663054	71.5	1.1	6748	30	3.92	0.10	-0.18	0.04	15.731	0.006	14.641	0.012	14.468	0.011	14.448	0.026	14.450	0.012	67.1	D
2078-53378-435	114.4620100	21.588031	74.0	1.7	5435	32	4.45	0.02	-0.24	0.04	19.165	0.022	17.731	0.006	17.246	0.006	17.067	0.012	17.011	0.018	28.1	D
2078-53378-440	114.4428000	21.680481	73.5	1.5	5685	15	4.59	0.06	-0.14	0.03	18.726	0.020	17.465	0.006	17.027	0.006	16.879	0.016	16.844	0.014	32.5	D
2078-53378-462	114.5509900	21.740853	71.2	1.4	6316	42	4.38	0.06	-0.34	0.02	17.379	0.010	16.297	0.007	16.007	0.005	15.912	0.007	15.908	0.021	50.2	D
2078-53378-463	114.5498300	21.721819	72.4	1.1	6673	28	4.20	0.13	-0.17	0.04	16.519	0.007	15.459	0.006	15.248	0.004	15.205	0.009	15.222	0.015	60.7	D
2078-53378-464	114.5741000	21.872315	73.5	1.4	5811	108	4.10	0.17	-0.46	0.04	18.041	0.020	16.870	0.011	16.502	0.008	16.381	0.011	16.378	0.016	40.6	C
2078-53378-465	114.5717800	21.840559	74.4	1.6	5594	36	4.58	0.07	-0.28	0.04	18.867	0.027	17.525	0.008	17.046	0.008	16.866	0.014	16.825	0.019	30.9	D
2078-53378-466	114.5513800	21.821870	72.0	1.2	6779	32	4.14	0.09	-0.30	0.05	16.199	0.023	15.113	0.008	14.922	0.005	14.874	0.019	14.895	0.010	62.2	D
2078-53378-468	114.5113100	21.658002	74.2	1.6	5673	40	4.49	0.07	-0.26	0.04	18.748	0.020	17.467	0.010	17.006	0.011	16.877	0.016	16.816	0.011	31.9	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\text{log } g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2078-53378-469	114.5523900	21.648226	73.4	1.0	6639	52	3.73	0.08	-0.30	0.06	15.552	0.008	14.454	0.014	14.234	0.010	14.196	0.029	14.224	0.007	67.0	D
2078-53378-470	114.5214000	21.710367	73.8	1.5	5857	81	4.43	0.05	-0.36	0.05	18.506	0.016	17.224	0.006	16.797	0.009	16.668	0.010	16.619	0.017	36.1	D
2078-53378-471	114.5303200	21.614900	76.3	1.3	6321	39	4.37	0.05	-0.33	0.03	17.394	0.010	16.330	0.013	16.044	0.007	15.972	0.031	15.981	0.013	49.4	D
2078-53378-472	114.5822100	21.598426	74.8	1.1	6745	39	3.90	0.10	-0.33	0.04	15.683	0.006	14.620	0.012	14.441	0.011	14.418	0.016	14.455	0.007	67.3	D
2078-53378-473	114.5220800	21.600907	72.8	1.4	6191	32	4.33	0.06	-0.23	0.02	17.624	0.012	16.522	0.012	16.206	0.007	16.131	0.021	16.122	0.011	46.4	D
2078-53378-475	114.4970800	21.644300	72.3	1.9	5223	55	4.62	0.08	-0.34	0.04	19.854	0.040	18.217	0.014	17.606	0.013	17.410	0.022	17.290	0.020	22.6	D
2078-53378-476	114.5061000	21.610610	75.5	1.6	5397	37	4.55	0.07	-0.19	0.06	19.354	0.025	17.913	0.018	17.377	0.011	17.228	0.021	17.120	0.016	26.4	D
2078-53378-477	114.5529400	21.628851	76.6	1.4	5856	60	4.51	0.10	-0.19	0.06	18.352	0.015	17.128	0.010	16.709	0.012	16.597	0.024	16.547	0.014	37.8	D
2078-53378-478	114.5313000	21.647832	80.1	1.5	5602	31	4.65	0.08	-0.23	0.05	19.046	0.024	17.636	0.012	17.157	0.009	17.012	0.017	16.945	0.018	30.1	D
2078-53378-480	114.5518000	21.664013	74.1	1.5	5770	68	4.58	0.09	-0.36	0.05	18.496	0.018	17.263	0.008	16.837	0.011	16.706	0.013	16.670	0.017	35.6	D
2078-53378-481	114.5914200	21.674248	69.7	1.8	6411	44	4.31	0.01	-0.20	0.04	17.208	0.009	16.128	0.005	15.840	0.010	15.770	0.010	15.793	0.013	51.4	D
2078-53378-485	114.6053800	21.694122	79.0	1.3	5909	60	4.48	0.07	-0.29	0.03	17.972	0.012	16.804	0.007	16.415	0.006	16.313	0.009	16.280	0.014	41.7	D
2078-53378-491	114.6300500	21.615073	75.1	1.1	6706	49	4.18	0.09	-0.49	0.07	15.909	0.005	14.848	0.007	14.636	0.011	14.586	0.007	14.625	0.007	64.9	D
2078-53378-492	114.6291800	21.672440	74.5	1.4	5952	36	4.34	0.05	-0.19	0.02	18.044	0.014	16.881	0.009	16.501	0.007	16.404	0.012	16.372	0.016	40.4	D
2078-53378-493	114.5901700	21.628422	77.1	1.7	5457	43	4.65	0.11	-0.37	0.05	19.249	0.022	17.777	0.009	17.256	0.011	17.108	0.024	17.030	0.023	27.7	D
2078-53378-496	114.6028900	21.614570	73.0	1.5	5954	51	4.47	0.07	-0.27	0.03	18.088	0.014	16.899	0.009	16.520	0.012	16.410	0.019	16.373	0.014	39.5	D
2078-53378-499	114.5844700	21.697393	76.4	1.5	5792	56	4.39	0.07	-0.22	0.08	18.403	0.017	17.177	0.007	16.766	0.008	16.651	0.015	16.615	0.017	35.8	D
2078-53378-503	114.6589000	21.779420	71.9	1.1	6767	51	3.98	0.08	-0.30	0.05	15.718	0.026	14.633	0.008	14.447	0.009	14.424	0.023	14.464	0.009	67.0	D
2078-53378-510	114.7120300	21.617662	64.1	1.5	5754	42	4.42	0.08	-0.42	0.02	18.154	0.017	16.959	0.007	16.543	0.009	16.402	0.014	16.374	0.016	40.2	D
2078-53378-511	114.6601500	21.613201	73.4	1.3	6838	24	4.21	0.09	-0.27	0.04	16.249	0.006	15.197	0.007	15.014	0.010	14.990	0.008	15.030	0.012	62.4	D
2078-53378-512	114.6719800	21.630064	72.4	1.2	6642	33	4.24	0.07	-0.36	0.06	16.658	0.010	15.613	0.006	15.391	0.005	15.350	0.008	15.365	0.018	58.2	D
2078-53378-513	114.6427400	21.634517	75.4	1.3	6089	37	4.52	0.06	-0.23	0.02	17.649	0.010	16.556	0.004	16.230	0.010	16.144	0.008	16.129	0.018	47.2	D
2078-53378-514	114.7189500	21.580207	72.9	1.5	5982	46	4.49	0.07	-0.33	0.02	17.970	0.013	16.826	0.005	16.470	0.010	16.378	0.009	16.332	0.011	40.7	D
2078-53378-515	114.7006500	21.605630	73.4	1.4	6105	36	4.26	0.07	-0.28	0.02	17.690	0.012	16.601	0.006	16.260	0.006	16.186	0.012	16.178	0.015	45.2	D
2078-53378-516	114.6420300	21.651564	72.1	1.3	6362	31	4.33	0.09	-0.27	0.01	17.284	0.010	16.206	0.007	15.930	0.008	15.872	0.008	15.877	0.016	51.1	D
2078-53378-517	114.6432900	21.728846	76.7	1.4	5631	52	4.48	0.08	-0.24	0.06	18.803	0.024	17.503	0.007	17.018	0.007	16.888	0.015	16.853	0.015	32.0	D
2078-53378-518	114.6788700	21.703910	67.3	1.2	6624	36	4.14	0.10	-0.23	0.00	16.676	0.018	15.646	0.012	15.428	0.011	15.386	0.020	15.418	0.008	57.7	D
2078-53378-519	114.7201400	21.600649	74.3	1.4	5726	63	4.49	0.09	-0.32	0.04	18.410	0.021	17.195	0.008	16.740	0.010	16.603	0.011	16.551	0.015	36.9	D
2078-53378-520	114.6900700	21.580940	74.5	1.3	6186	38	4.33	0.03	-0.38	0.04	17.598	0.011	16.516	0.011	16.182	0.009	16.094	0.010	16.110	0.017	46.8	D
2078-53378-548	114.7715200	21.684803	74.0	1.2	6851	43	4.03	0.10	-0.32	0.02	15.872	0.029	14.795	0.009	14.640	0.013	14.597	0.037	14.667	0.011	64.4	D
2078-53378-552	114.7907100	21.658454	81.6	2.4	5047	60	4.48	0.03	-0.33	0.09	20.133	0.058	18.385	0.010	17.765	0.011	17.553	0.009	17.485	0.018	17.3	D
2078-53378-553	114.7563200	21.637694	79.7	1.8	5289	79	4.54	0.07	-0.30	0.03	19.647	0.041	18.024	0.011	17.449	0.009	17.281	0.017	17.206	0.015	23.5	D
2078-53378-554	114.7373500	21.682465	71.5	1.2	6798	20	4.13	0.10	-0.30	0.06	15.887	0.026	14.846	0.005	14.671	0.008	14.655	0.023	14.703	0.017	64.7	D
2078-53378-557	114.7612200	21.602289	73.8	1.3	6443	40	4.29	0.06	-0.24	0.02	17.041	0.010	15.961	0.005	15.704	0.007	15.645	0.009	15.662	0.012	52.8	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\text{log } g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2078-53378-560	114.7902800	21.615337	76.7	1.6	5771	63	4.48	0.06	-0.25	0.00	18.421	0.013	17.180	0.005	16.775	0.007	16.656	0.010	16.631	0.017	34.8	D
2079-53379-071	114.8473500	21.432501	79.2	1.6	4885	70	4.56	0.09	-0.39	0.06	20.474	0.079	18.720	0.011	18.023	0.008	17.804	0.014	17.697	0.021	26.6	C
2079-53379-076	114.8654000	21.591274	77.7	1.4	4910	50	4.58	0.14	-0.35	0.05	20.400	0.069	18.538	0.009	17.890	0.009	17.653	0.010	17.604	0.022	28.5	D
2079-53379-101	114.7611100	21.490309	73.9	2.7	4400	65	4.45	0.22	-0.26	0.05	22.055	0.287	19.568	0.019	18.651	0.013	18.325	0.014	18.117	0.025	17.4	D
2079-53379-102	114.7788500	21.400061	79.8	2.1	4442	44	4.32	0.18	-0.34	0.04	21.751	0.236	19.528	0.023	18.559	0.017	18.264	0.015	18.142	0.026	18.7	C
2079-53379-108	114.7754900	21.503532	78.2	2.9	4302	49	4.49	0.08	-0.31	0.06	21.995	0.322	19.996	0.019	18.920	0.016	18.552	0.017	18.318	0.033	14.1	D
2079-53379-113	114.7522800	21.451730	83.0	3.2	4297	50	4.46	0.15	-0.46	0.10	21.762	0.278	20.121	0.026	19.046	0.016	18.658	0.015	18.463	0.036	12.8	D
2079-53379-114	114.8108100	21.427293	62.0	2.1	4626	16	4.69	0.11	-0.21	0.06	21.304	0.158	19.352	0.014	18.539	0.010	18.248	0.015	18.087	0.025	18.1	C
2079-53379-119	114.7431700	21.578207	74.1	2.9	4389	11	4.22	0.15	-0.22	0.05	21.975	0.252	19.827	0.021	18.801	0.017	18.416	0.013	18.221	0.034	15.4	D
2079-53379-141	114.7252900	21.498738	75.3	1.9	4559	33	4.49	0.06	-0.24	0.00	21.723	0.223	19.287	0.012	18.432	0.012	18.127	0.012	17.978	0.030	20.5	D
2079-53379-148	114.6623700	21.491985	75.1	2.0	4577	16	4.47	0.03	-0.22	0.01	21.201	0.120	19.189	0.014	18.354	0.015	18.069	0.014	17.906	0.029	21.7	D
2079-53379-149	114.7246300	21.518278	76.6	1.7	4732	41	4.48	0.13	-0.41	0.06	20.913	0.094	18.897	0.012	18.158	0.013	17.920	0.014	17.772	0.027	24.6	D
2079-53379-152	114.7128300	21.469206	77.4	2.0	4561	94	4.54	0.06	-0.37	0.05	21.228	0.151	19.230	0.012	18.378	0.012	18.106	0.013	17.931	0.030	20.7	D
2079-53379-153	114.6333400	21.580304	68.5	2.4	4394	37	4.50	0.04	-0.21	0.05	22.148	0.247	19.706	0.018	18.718	0.016	18.363	0.017	18.157	0.030	16.4	D
2079-53379-156	114.7116500	21.534131	73.7	1.5	4857	49	4.55	0.10	-0.32	0.06	20.567	0.060	18.689	0.009	18.005	0.013	17.767	0.011	17.664	0.023	28.0	D
2079-53379-157	114.6400200	21.563115	74.3	2.0	4432	51	4.31	0.03	-0.24	0.04	21.765	0.213	19.586	0.018	18.619	0.015	18.309	0.014	18.137	0.026	18.1	D
2079-53379-158	114.6514700	21.519801	77.2	2.0	4506	41	4.53	0.18	-0.30	0.01	21.441	0.172	19.448	0.015	18.560	0.014	18.262	0.013	18.097	0.029	18.8	D
2079-53379-159	114.6842700	21.541289	80.4	1.9	4554	3	4.45	0.04	-0.32	0.04	21.293	0.115	19.313	0.012	18.458	0.011	18.160	0.012	17.942	0.033	20.1	D
2079-53379-160	114.6688400	21.578449	75.6	1.7	4678	102	4.52	0.04	-0.32	0.01	21.188	0.121	19.128	0.015	18.318	0.009	18.033	0.014	17.888	0.031	22.5	D
2079-53379-161	114.6037900	21.466938	75.2	2.9	4411	52	4.55	0.15	-0.09	0.06	22.006	0.278	19.789	0.018	18.788	0.012	18.437	0.012	18.316	0.038	12.9	D
2079-53379-162	114.6411300	21.466083	77.6	1.4	4905	88	4.59	0.12	-0.18	0.04	20.433	0.052	18.675	0.010	17.956	0.009	17.754	0.009	17.658	0.026	28.2	D
2079-53379-163	114.6339800	21.310769	71.7	2.4	4569	13	4.48	0.16	-0.53	0.05	21.454	0.175	19.244	0.012	18.413	0.015	18.102	0.012	17.901	0.025	17.9	D
2079-53379-164	114.5535900	21.543980	78.8	1.9	4719	91	4.37	0.12	-0.45	0.08	20.852	0.101	18.993	0.011	18.233	0.008	17.935	0.014	17.764	0.022	22.7	D
2079-53379-165	114.5703200	21.534152	73.3	2.3	4421	35	4.64	0.22	-0.31	0.06	22.042	0.289	19.688	0.019	18.725	0.013	18.335	0.012	18.203	0.036	16.5	D
2079-53379-166	114.5640000	21.557892	76.7	1.4	4922	68	4.65	0.10	-0.31	0.04	20.572	0.103	18.659	0.008	17.982	0.009	17.727	0.009	17.618	0.019	27.7	D
2079-53379-167	114.6235500	21.455992	77.9	3.4	4280	68	4.06	0.44	-0.21	0.08	22.146	0.307	20.160	0.024	19.042	0.017	18.649	0.015	18.463	0.044	12.5	D
2079-53379-168	114.6708300	21.438009	76.0	2.5	4475	12	4.90	0.21	-0.09	0.12	22.278	0.240	19.706	0.018	18.748	0.011	18.436	0.015	18.214	0.036	14.6	D
2079-53379-169	114.5825700	21.549603	76.4	1.7	4911	88	4.60	0.12	-0.33	0.04	20.879	0.106	18.811	0.011	18.113	0.008	17.852	0.010	17.711	0.019	23.5	D
2079-53379-178	114.5719400	21.445641	76.6	1.6	4987	101	4.58	0.07	-0.21	0.04	20.491	0.076	18.672	0.012	17.993	0.013	17.749	0.010	17.640	0.019	25.9	D
2079-53379-181	114.5458400	21.481654	73.0	1.0	6765	20	4.01	0.06	-0.33	0.02	15.898	0.009	14.824	0.004	14.654	0.016	14.639	0.007	14.679	0.007	79.6	D
2079-53379-182	114.5021800	21.350065	79.8	1.9	4530	38	4.49	0.13	-0.25	0.02	21.060	0.115	19.132	0.016	18.339	0.011	18.046	0.011	17.872	0.024	19.4	C
2079-53379-185	114.5404100	21.421194	66.5	3.2	4249	68	4.25	0.04	-0.22	0.19	22.199	0.376	20.251	0.023	19.079	0.024	18.676	0.016	18.410	0.042	11.8	D
2079-53379-191	114.5309900	21.548797	81.0	2.1	4718	121	4.59	0.13	-0.47	0.03	21.245	0.153	19.149	0.011	18.370	0.010	18.051	0.015	17.942	0.028	20.0	D
2079-53379-192	114.5139700	21.403902	76.9	1.5	4884	71	4.49	0.08	-0.29	0.03	20.564	0.068	18.734	0.010	18.005	0.019	17.784	0.011	17.687	0.023	26.2	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	σ_{Teff} (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2079-53379-194	114.5345700	21.444081	75.2	1.4	4985	68	4.61	0.10	-0.37	0.04	20.283	0.062	18.536	0.011	17.878	0.023	17.637	0.010	17.553	0.022	29.7	D
2079-53379-195	114.5383800	21.459230	77.6	1.7	4777	88	4.57	0.13	-0.36	0.06	20.808	0.095	18.905	0.013	18.162	0.020	17.907	0.012	17.721	0.027	23.7	D
2079-53379-196	114.4932800	21.577397	74.7	2.3	4460	51	4.41	0.02	-0.09	0.07	21.896	0.258	19.651	0.017	18.691	0.012	18.370	0.014	18.210	0.033	16.3	D
2079-53379-198	114.5100600	21.580111	76.4	1.6	4947	62	4.61	0.04	-0.19	0.01	20.236	0.053	18.581	0.008	17.927	0.008	17.687	0.011	17.575	0.022	29.3	D
2079-53379-199	114.5401500	21.574061	76.7	2.3	4373	37	4.74	0.23	-0.32	0.04	22.046	0.259	19.754	0.019	18.760	0.012	18.419	0.019	18.171	0.029	15.9	D
2079-53379-200	114.5501800	21.515901	78.2	1.8	4719	70	4.60	0.10	-0.43	0.03	20.892	0.111	19.068	0.011	18.285	0.010	18.002	0.015	17.865	0.023	21.9	D
2079-53379-234	114.4902800	21.529356	73.3	2.0	4473	20	4.37	0.02	-0.10	0.06	21.922	0.264	19.413	0.012	18.533	0.013	18.198	0.014	18.049	0.031	18.6	D
2079-53379-237	114.3715100	21.576729	74.9	1.8	4618	28	4.58	0.14	-0.25	0.03	21.110	0.119	19.177	0.013	18.376	0.015	18.063	0.026	17.904	0.024	21.1	D
2079-53379-238	114.4818700	21.496135	74.3	1.7	4777	51	4.60	0.08	-0.22	0.07	20.833	0.089	18.801	0.011	18.099	0.014	17.857	0.026	17.692	0.020	24.8	D
2079-53379-270	114.3305500	21.473141	78.9	1.7	4690	49	4.43	0.09	-0.28	0.07	20.739	0.075	18.861	0.024	18.079	0.053	17.780	0.040	17.648	0.037	23.9	D
2079-53379-431	114.35 33000	21.674222	72.5	1.3	4812	86	4.67	0.10	-0.15	0.01	20.622	0.095	18.836	0.013	18.068	0.009	17.784	0.019	17.711	0.024	26.5	C
2079-53379-434	114.3718200	21.656651	86.9	1.6	4687	62	4.40	0.08	-0.47	0.02	20.945	0.108	18.933	0.012	18.152	0.011	17.825	0.013	17.722	0.024	25.2	D
2079-53379-440	114.3739700	21.682238	78.6	2.1	4449	32	4.30	0.04	-0.14	0.04	22.059	0.323	19.483	0.016	18.569	0.011	18.217	0.019	18.094	0.030	17.7	C
2079-53379-463	114.4646500	21.774120	80.8	3.1	4280	111	4.34	0.06	-0.16	0.11	23.338	0.904	20.209	0.025	19.099	0.016	18.687	0.016	18.448	0.039	12.3	C
2079-53379-466	114.4836000	21.728158	77.3	2.1	4508	95	4.71	0.16	-0.47	0.04	21.983	0.296	19.497	0.015	18.587	0.014	18.292	0.028	18.160	0.029	18.3	D
2079-53379-467	114.5359200	21.782800	78.4	1.5	4833	76	4.58	0.10	-0.22	0.06	21.096	0.152	18.954	0.010	18.182	0.011	17.875	0.023	17.732	0.026	24.2	D
2079-53379-474	114.4939800	21.612208	76.6	2.3	4419	45	4.38	0.02	-0.19	0.06	21.679	0.151	19.677	0.022	18.687	0.015	18.304	0.019	18.047	0.027	18.6	D
2079-53379-476	114.4833500	21.630688	73.9	2.5	4441	1	4.70	0.23	-0.24	0.06	21.927	0.232	19.769	0.026	18.800	0.015	18.444	0.019	18.290	0.032	15.4	D
2079-53379-477	114.5016300	21.681392	75.4	1.5	4835	87	4.62	0.11	-0.17	0.05	21.096	0.105	18.939	0.012	18.171	0.011	17.937	0.020	17.791	0.025	25.2	D
2079-53379-480	114.5439600	21.591729	72.2	1.5	4624	21	4.65	0.05	-0.45	0.01	21.208	0.104	19.076	0.017	18.272	0.009	17.965	0.019	17.813	0.021	24.1	D
2079-53379-482	114.6128000	21.662743	77.1	2.1	4420	34	4.38	0.02	-0.33	0.09	21.370	0.141	19.429	0.015	18.500	0.013	18.124	0.012	17.907	0.022	19.2	D
2079-53379-483	114.5822100	21.598426	68.3	1.0	6755	41	3.92	0.10	-0.34	0.03	15.683	0.006	14.620	0.012	14.441	0.011	14.418	0.016	14.455	0.007	82.4	D
2079-53379-487	114.6304000	21.655710	78.7	2.0	4492	77	4.59	0.15	-0.26	0.04	21.607	0.163	19.438	0.013	18.509	0.013	18.209	0.015	18.048	0.027	19.7	D
2079-53379-488	114.5538100	21.617337	77.3	3.6	4274	75	4.16	0.31	-0.43	0.06	22.407	0.294	20.287	0.031	19.151	0.015	18.763	0.017	18.476	0.038	11.7	D
2079-53379-490	114.5893300	21.713299	79.5	2.2	4398	44	4.27	0.18	-0.33	0.02	22.384	0.333	19.758	0.020	18.755	0.011	18.431	0.014	18.236	0.030	16.9	D
2079-53379-493	114.5601200	21.648805	76.3	2.7	4343	52	4.56	0.29	-0.18	0.06	22.119	0.235	19.970	0.020	18.919	0.016	18.551	0.021	18.329	0.030	14.2	D
2079-53379-495	114.5839200	21.631277	78.3	1.6	4811	59	4.58	0.08	-0.21	0.02	20.975	0.084	18.914	0.011	18.176	0.011	17.931	0.021	17.810	0.021	24.5	D
2079-53379-496	114.6000900	21.607352	78.2	1.3	4919	66	4.57	0.04	-0.21	0.04	20.457	0.069	18.674	0.013	17.945	0.024	17.748	0.018	17.651	0.022	29.7	D
2079-53379-498	114.6408400	21.609080	79.4	1.6	4795	63	4.68	0.13	-0.30	0.04	20.891	0.093	18.977	0.013	18.219	0.012	17.963	0.010	17.800	0.022	24.2	D
2079-53379-500	114.5563800	21.802400	78.5	1.9	4628	27	4.64	0.11	-0.26	0.05	21.368	0.145	19.214	0.014	18.393	0.012	18.110	0.019	17.931	0.033	21.2	D
2079-53379-502	114.6971800	21.661120	76.2	1.7	4703	71	4.62	0.05	-0.24	0.01	21.184	0.115	19.101	0.015	18.299	0.010	18.017	0.020	17.873	0.024	22.0	D
2079-53379-507	114.7510500	21.611731	81.5	1.9	4510	47	4.46	0.05	-0.48	0.03	21.398	0.142	19.348	0.014	18.486	0.013	18.170	0.017	18.107	0.031	19.9	D
2079-53379-510	114.7320600	21.659275	82.6	3.3	4296	66	3.93	0.28	-0.22	0.07	22.837	0.525	20.376	0.024	19.191	0.014	18.802	0.027	18.555	0.037	11.6	D
2079-53379-511	114.7137100	21.664611	76.6	1.7	4773	82	4.57	0.07	-0.36	0.06	20.814	0.101	18.978	0.013	18.211	0.011	17.933	0.021	17.829	0.025	23.8	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H]	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2079-53379-512	114.6809200	21.718416	74.5	1.3	5044	60	4.56	0.01	-0.21	0.06	20.161	0.062	18.507	0.010	17.850	0.011	17.631	0.019	17.525	0.015	30.8	D
2079-53379-514	114.6947400	21.611378	79.6	2.9	4353	39	4.41	0.19	-0.30	0.07	22.047	0.232	19.953	0.021	18.930	0.017	18.538	0.016	18.330	0.032	14.0	D
2079-53379-516	114.6617100	21.614836	74.9	1.4	4814	23	4.68	0.08	-0.19	0.02	20.717	0.074	18.760	0.012	18.042	0.010	17.759	0.032	17.697	0.022	27.3	D
2079-53379-519	114.6623800	21.765588	79.1	1.7	4609	46	4.46	0.03	-0.37	0.03	21.190	0.112	19.198	0.013	18.381	0.010	18.082	0.021	17.932	0.023	21.3	D
2079-53379-552	114.8454600	21.609291	61.9	2.0	4537	23	4.48	0.16	-0.39	0.03	21.393	0.154	19.407	0.015	18.530	0.013	18.234	0.014	18.085	0.029	19.7	D
2079-53379-558	114.7901800	21.681409	76.0	1.5	4947	8	4.63	0.09	-0.26	0.06	20.244	0.058	18.566	0.017	17.884	0.014	17.668	0.031	17.589	0.025	29.0	D
NGC 2158																						
2887-54521-416	91.77971	24.14997	27.1	1.4	5131	135	3.44	0.38	-0.17	0.04	16.282	0.024	14.296	0.012	13.506	0.008	13.156	0.007	13.056	0.015	68.9	C
2887-54521-442	91.89992	24.10639	28.7	1.5	6497	197	3.56	0.17	-0.17	0.06	16.025	0.020	15.023	0.005	14.648	0.007	14.572	0.007	14.568	0.012	52.1	C
2887-54521-445	91.85167	24.13172	25.8	1.6	6250	61	4.03	0.16	-0.33	0.04	15.721	...	15.321	...	14.909	...	15.702	...	15.969	...	54.3	B
2887-54521-446	91.85258	24.15344	25.2	2.6	6568	129	3.61	0.11	-0.29	0.05	16.164	0.025	15.135	0.007	14.979	0.010	14.916	0.009	14.951	0.016	46.2	C
2887-54521-447	91.87250	24.14558	25.4	0.9	5190	104	3.43	0.30	-0.21	0.02	15.997	0.020	14.192	0.019	13.437	0.016	15.498	0.089	13.071	0.015	68.0	C
2887-54521-451	91.88104	24.13031	25.8	1.6	6907	81	3.58	0.26	-0.22	0.04	15.782	0.019	14.809	0.005	14.602	0.007	14.616	0.007	14.658	0.012	54.5	C
2887-54521-452	91.92525	24.07644	26.7	1.6	6652	99	3.60	0.27	-0.24	0.02	16.017	0.023	15.098	0.008	14.668	0.007	14.609	0.007	14.623	0.013	53.8	C
2887-54521-460	91.88954	24.06314	25.8	2.1	7095	85	3.40	0.36	-0.17	0.07	16.112	...	15.711	...	15.420	...	16.213	...	16.480	...	48.6	B
2887-54521-511	91.83700	24.00167	25.6	1.7	6592	64	3.04	0.38	-0.31	0.06	15.952	...	15.551	...	15.030	...	15.823	...	16.090	...	51.6	B
2887-54521-531	91.88554	24.17808	20.1	0.8	5187	174	3.56	0.39	-0.16	0.04	15.761	0.023	13.912	0.007	13.318	0.008	13.069	0.006	12.978	0.015	70.0	C
2887-54521-532	91.91121	24.16419	27.3	0.8	4965	112	3.43	0.32	-0.22	0.01	15.808	0.019	13.818	0.005	13.033	0.007	15.253	0.010	12.656	0.012	72.2	C
2887-54521-547	91.92800	24.04764	26.7	0.8	5164	110	3.34	0.30	-0.30	0.04	15.667	0.019	14.036	0.005	13.279	0.007	15.157	0.009	12.933	0.012	72.5	C
2887-54521-552	91.92346	24.09833	27.7	0.8	5072	79	3.25	0.30	-0.26	0.02	16.300	0.022	14.450	0.005	13.636	0.007	15.007	0.009	13.235	0.012	68.7	C
2887-54521-559	91.94121	24.08608	29.1	0.9	5068	67	3.33	0.19	-0.26	0.04	16.438	0.023	14.711	0.005	13.861	0.007	14.448	0.011	13.452	0.012	66.1	C
2912-54499-409	91.79567	24.15931	30.6	2.9	7650	225	4.17	0.18	-0.23	0.05	17.219	0.033	16.096	0.008	15.818	0.008	15.730	0.006	15.755	0.016	49.5	C
2912-54499-416	91.80908	24.13578	28.3	2.1	7071	139	3.83	0.28	-0.25	0.03	17.231	0.034	16.068	0.016	15.912	0.019	15.847	0.007	15.883	0.017	49.5	C
2912-54499-417	91.80938	24.17028	30.6	2.7	6912	67	4.17	0.10	-0.39	0.03	17.411	0.036	16.393	0.008	16.183	0.008	16.096	0.007	16.176	0.017	39.0	C
2912-54499-442	91.87000	24.15608	25.4	1.8	7467	174	4.19	0.18	-0.24	0.07	16.790	0.027	15.875	0.013	15.620	0.030	15.648	0.082	15.700	0.015	55.7	C
2912-54499-444	91.88554	24.16933	29.6	1.7	7167	125	4.12	0.20	-0.28	0.03	16.719	0.026	15.777	0.007	15.692	0.008	15.724	0.009	15.810	0.016	52.5	C
2912-54499-445	91.88062	24.18756	25.1	1.8	7100	144	3.94	0.26	-0.30	0.08	16.825	0.029	15.852	0.007	15.754	0.008	15.732	0.006	15.795	0.016	51.4	C
2912-54499-446	91.89346	24.15556	19.8	3.0	7116	221	4.26	0.10	-0.23	0.04	17.804	0.046	16.870	0.009	16.608	0.008	16.586	0.008	16.649	0.018	32.9	C
2912-54499-450	91.86475	24.17319	36.9	1.6	6915	87	3.82	0.18	-0.29	0.03	16.321	0.025	15.327	0.007	15.234	0.008	15.193	0.006	15.264	0.015	62.7	C
2912-54499-453	91.85146	24.14342	22.9	2.6	7099	198	4.38	0.09	-0.22	0.04	17.123	...	16.722	...	16.400	...	17.192	...	17.460	...	48.7	B
2912-54499-458	91.89862	24.17961	26.1	1.8	7093	72	4.04	0.14	-0.31	0.05	16.725	0.026	15.716	0.006	15.580	0.007	15.578	0.007	15.651	0.013	55.5	C
2912-54499-459	91.81154	24.15192	16.3	3.8	6656	49	4.24	0.09	-0.25	0.02	18.930	0.237	16.882	0.010	16.710	0.012	16.542	0.011	16.494	0.018	34.8	C
2912-54499-461	91.75933	24.10450	18.5	2.7	7595	241	4.28	0.15	-0.30	0.02	17.674	0.051	16.613	0.027	16.241	0.025	16.143	0.026	16.150	0.028	40.8	C
2912-54499-462	91.77433	24.04967	26.3	2.4	7298	147	4.31	0.11	-0.27	0.02	17.603	...	17.202	...	16.710	...	17.503	...	17.769	...	44.6	B

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[Fe/H]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle S/N \rangle$	Tag
2912-54499-483	91.82025	24.05197	25.1	1.6	7558	188	3.97	0.27	-0.19	0.06	16.563	...	16.162	...	15.810	...	16.603	...	16.869	...	60.2	B
2912-54499-484	91.81408	24.06819	26.2	1.9	7532	208	4.03	0.24	-0.19	0.05	16.710	...	16.310	...	15.959	...	16.752	...	17.019	...	56.6	B
2912-54499-488	91.78896	24.14458	19.7	2.4	6799	57	4.00	0.03	-0.23	0.04	17.353	0.034	16.269	0.013	15.983	0.009	15.820	0.008	15.896	0.017	43.8	C
2912-54499-489	91.79008	24.11892	27.2	1.7	7341	156	3.94	0.20	-0.22	0.04	16.779	...	16.379	...	15.998	...	16.791	...	17.058	...	58.8	B
2912-54499-499	91.79063	24.03228	28.6	2.5	7343	163	4.26	0.11	-0.36	0.04	17.341	...	16.941	...	16.479	...	17.272	...	17.539	...	46.8	B
2912-54499-501	91.84150	24.10564	20.1	3.1	7218	172	4.31	0.09	-0.31	0.01	17.793	...	17.392	...	17.040	...	17.833	...	18.100	...	40.0	B
2912-54499-502	91.85879	24.11939	25.2	2.3	7498	241	4.17	0.19	-0.21	0.04	17.143	...	16.742	...	16.471	...	17.264	...	17.531	...	49.6	B
2912-54499-503	91.82617	24.11897	19.4	1.8	7442	208	4.03	0.24	-0.23	0.06	16.810	...	16.409	...	16.089	...	16.881	...	17.149	...	56.4	B
2912-54499-505	91.86846	24.13533	26.0	1.7	7567	174	4.28	0.14	-0.16	0.04	16.861	...	16.461	...	16.199	...	16.992	...	17.259	...	55.2	B
2912-54499-506	91.84617	24.08989	23.9	3.1	6525	53	4.13	0.15	-0.25	0.03	18.350	...	17.950	...	17.549	...	18.341	...	18.609	...	30.3	B
2912-54499-507	91.81417	24.10178	26.7	2.5	7963	224	4.28	0.14	-0.13	0.03	16.863	...	16.462	...	16.189	...	16.982	...	17.248	...	54.9	B
2912-54499-509	91.82708	24.13514	31.1	2.1	7146	187	3.93	0.02	-0.30	0.04	16.821	...	16.420	...	16.069	...	16.863	...	17.130	...	59.2	B
2912-54499-510	91.88258	24.01472	27.7	2.7	6868	80	4.21	0.16	-0.37	0.05	17.751	...	17.351	...	16.889	...	17.682	...	17.949	...	40.1	B
2912-54499-511	91.86654	24.00914	32.5	2.6	6954	57	4.05	0.18	-0.27	0.04	17.669	...	17.269	...	16.768	...	17.561	...	17.828	...	41.8	B
2912-54499-514	91.83721	24.05189	30.6	1.7	7214	167	4.06	0.15	-0.23	0.04	16.733	...	16.331	...	15.950	...	16.743	...	17.010	...	59.6	B
2912-54499-515	91.83862	24.07103	30.0	2.4	7317	158	3.90	0.22	-0.31	0.02	17.174	...	16.772	...	16.420	...	17.213	...	17.479	...	49.9	B
2912-54499-516	91.82779	24.09117	24.5	1.8	7276	177	4.02	0.05	-0.15	0.03	16.831	...	16.431	...	16.059	...	16.852	...	17.119	...	57.5	B
2912-54499-518	91.85975	24.05356	30.8	2.0	7287	166	4.30	0.10	-0.28	0.06	17.250	...	16.850	...	16.509	...	17.302	...	17.569	...	48.6	B
2912-54499-519	91.85563	24.07247	26.8	2.3	7205	172	4.25	0.21	-0.25	0.03	17.595	...	17.193	...	16.851	...	17.644	...	17.910	...	43.5	B
2912-54499-531	91.93679	24.14572	28.8	2.1	6885	67	4.22	0.10	-0.24	0.03	17.091	0.031	16.252	0.007	16.068	0.008	16.101	0.008	16.185	0.016	46.8	C
2912-54499-534	91.93967	24.10997	34.4	3.3	6550	99	4.18	0.20	-0.18	0.03	18.393	0.072	17.488	0.010	17.107	0.009	17.031	0.009	17.058	0.021	26.5	C
2912-54499-539	91.91863	24.17281	19.1	3.1	7162	207	3.97	0.02	-0.31	0.01	17.653	0.043	16.770	0.008	16.530	0.008	16.525	0.008	16.570	0.017	37.5	C
2912-54499-540	91.91633	24.12875	32.4	2.7	6916	255	4.13	0.14	-0.28	0.04	17.803	0.048	16.963	0.008	16.669	0.010	16.636	0.012	16.709	0.022	35.7	C
2912-54499-542	91.90304	24.07997	24.6	1.4	6621	58	3.84	0.06	-0.37	0.04	16.305	0.022	15.386	0.016	15.098	0.020	15.060	0.007	15.074	0.013	67.9	C
2912-54499-543	91.89542	24.11381	26.0	2.4	6623	200	4.18	0.14	-0.29	0.01	17.404	...	17.003	...	16.620	...	17.412	...	17.679	...	44.3	B
2912-54499-544	91.88567	24.07508	23.4	3.6	6592	123	4.27	0.16	-0.38	0.02	18.191	...	17.790	...	17.339	...	18.132	...	18.399	...	29.2	B
2912-54499-545	91.88704	24.13492	30.0	1.7	7403	188	4.29	0.15	-0.18	0.07	16.690	...	16.290	...	16.019	...	16.812	...	17.079	...	56.6	B
2912-54499-547	91.87900	24.11878	30.3	2.6	6722	200	4.36	0.09	-0.29	0.05	17.780	...	17.380	...	16.999	...	17.792	...	18.060	...	38.6	B
2912-54499-549	91.88500	24.09136	24.5	1.8	7209	188	4.34	0.10	-0.15	0.04	16.893	...	16.492	...	16.180	...	16.972	...	17.239	...	56.8	B
2912-54499-552	91.89858	24.05819	25.7	1.6	7312	155	3.92	0.18	-0.26	0.05	16.443	...	16.042	...	15.730	...	16.522	...	16.789	...	62.0	B
2912-54499-553	91.89375	24.03914	26.6	3.3	7047	196	4.12	0.14	-0.28	0.03	17.423	...	17.021	...	16.670	...	17.462	...	17.729	...	44.8	B
2912-54499-556	91.87758	24.05083	27.8	1.7	7276	171	3.88	0.03	-0.11	0.03	16.560	...	16.160	...	15.839	...	16.632	...	16.900	...	63.1	B
2912-54499-558	91.92079	24.06769	25.3	1.6	7249	161	4.03	0.20	-0.19	0.06	16.741	0.026	15.915	0.006	15.600	0.007	15.591	0.007	15.652	0.014	57.5	C
2912-54499-559	91.93942	24.06436	27.1	2.7	7027	197	4.32	0.13	-0.29	0.01	17.750	0.045	16.870	0.008	16.545	0.008	16.497	0.008	16.517	0.017	36.8	C

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2912-54499-560	91.89983	24.02447	23.4	2.3	6784	77	4.08	0.16	-0.28	0.02	17.742	...	17.341	...	16.870	...	17.662	...	17.929	...	39.3	B
M35																						
2887-54521-528	92.12229	24.48356	-11.1	1.1	6167	79	4.12	0.09	-0.23	0.09	15.182	0.014	14.084	0.008	13.603	0.001	13.548	0.008	13.533	0.012	72.7	C
2887-54521-534	92.11242	24.43275	-10.1	1.1	7898	344	4.25	0.15	+0.08	0.01	13.998	0.013	13.012	0.008	12.769	0.002	12.762	0.001	12.873	0.012	76.9	C
2887-54521-561	92.19954	24.33650	-4.7	1.2	7415	247	4.27	0.15	-0.06	0.04	14.391	0.013	13.412	0.008	13.043	0.001	13.049	0.008	13.094	0.012	75.6	C
2887-54521-562	92.18996	24.48508	-8.1	1.2	7125	181	4.32	0.10	+0.09	0.03	14.114	0.014	13.069	0.008	12.840	0.001	12.807	0.001	12.889	0.014	77.2	C
2887-54521-566	92.21008	24.37531	-7.0	1.2	7073	217	4.24	0.11	-0.14	0.03	14.710	0.014	13.612	0.008	13.191	0.001	13.148	0.008	13.157	0.012	74.6	C
2887-54521-571	92.17171	24.26314	1.0	1.2	6436	37	4.22	0.03	-0.25	0.01	14.659	0.012	13.647	0.010	13.362	0.011	15.795	0.010	13.318	0.010	73.3	C
2887-54521-574	92.24525	24.33811	-4.2	1.1	6173	72	4.49	0.14	-0.14	0.01	15.553	0.013	14.400	0.010	13.999	0.011	13.836	0.001	13.872	0.011	69.1	C
2887-54521-575	92.18267	24.28672	-0.1	1.2	6399	87	4.34	0.16	-0.22	0.03	15.085	0.013	13.977	0.010	13.621	0.011	15.741	0.025	13.501	0.011	71.8	C
2887-54521-576	92.16121	24.28150	-3.5	1.2	6504	110	4.32	0.09	-0.26	0.09	14.787	0.012	13.770	0.010	13.466	0.011	16.380	0.014	13.413	0.010	72.1	C
2887-54521-577	92.12313	24.23586	-4.5	1.6	6579	65	4.33	0.00	-0.15	0.03	14.785	0.219	13.682	0.014	13.379	0.010	15.369	0.178	13.366	0.118	71.4	C
2887-54521-580	92.22917	24.28611	-6.7	1.1	6213	63	4.56	0.15	-0.21	0.04	15.594	0.013	14.412	0.010	14.006	0.011	16.271	0.088	13.842	0.011	68.2	C
2887-54521-602	92.29150	24.30103	-4.5	1.2	6306	97	4.39	0.14	-0.18	0.04	15.126	0.013	14.009	0.010	13.680	0.011	16.041	0.014	13.574	0.010	71.3	C
2887-54521-604	92.37287	24.35117	-5.7	1.3	6265	67	4.27	0.08	-0.08	0.02	15.425	0.014	14.271	0.009	13.874	0.006	16.108	0.015	13.751	0.013	69.9	C
2887-54521-606	92.34713	24.32714	-6.9	1.1	6315	44	4.30	0.08	-0.31	0.03	15.303	0.014	14.134	0.009	13.802	0.006	16.146	0.017	13.669	0.013	71.1	C
2887-54521-608	92.34037	24.28469	-4.9	1.4	6414	50	4.26	0.05	-0.07	0.00	14.904	0.013	13.800	0.010	13.517	0.011	15.227	0.010	13.461	0.010	73.0	C
2887-54521-611	92.38533	24.22036	-5.8	1.3	6967	237	4.33	0.10	-0.03	0.04	14.520	0.013	13.452	0.009	13.163	0.001	13.111	0.001	13.178	0.013	75.0	C
2887-54521-616	92.27704	24.23072	-1.5	1.1	6276	70	4.26	0.03	-0.11	0.04	15.370	0.013	14.226	0.010	13.856	0.011	15.514	0.016	13.729	0.011	70.8	C
2887-54521-620	92.33058	24.31908	-8.1	1.5	6213	69	4.53	0.16	-0.21	0.04	15.638	0.014	14.414	0.009	14.006	0.006	15.972	0.021	13.824	0.013	68.7	C
2912-54499-524	92.04133	24.36569	-6.9	1.2	4478	89	4.43	0.18	-0.52	0.01	20.207	0.094	17.847	0.011	16.717	0.006	16.306	0.010	16.061	0.016	34.5	C
2912-54499-563	92.23489	24.45188	-3.0	0.8	4695	32	4.55	0.05	-0.26	0.05	19.271	0.056	17.114	0.123	16.199	0.162	15.899	0.141	15.983	0.209	56.9	C
2912-54499-564	92.15571	24.49417	-0.6	0.8	4496	101	4.61	0.09	-0.46	0.06	19.953	0.077	17.492	0.013	16.364	0.010	15.970	0.012	15.728	0.015	47.8	C
2912-54499-575	92.18929	24.21147	-0.7	1.1	4668	83	4.72	0.14	-0.16	0.06	20.797	0.189	17.994	0.009	16.848	0.007	16.429	0.008	16.218	0.012	34.6	C
2912-54499-576	92.27554	24.45567	-16.2	1.2	5158	9	3.75	0.01	-0.42	0.05	18.894	0.036	16.985	0.009	16.133	0.007	15.759	0.010	15.617	0.015	51.7	C
2912-54499-601	92.29767	24.42347	-7.0	1.0	4577	230	4.37	0.22	-0.46	0.04	19.290	0.048	17.370	0.010	16.411	0.008	16.028	0.010	15.876	0.015	43.8	C
2912-54499-604	92.36371	24.35142	-1.7	2.3	4347	72	3.33	0.01	-0.34	0.06	20.451	1.916	18.978	0.014	17.578	0.010	17.018	0.010	16.693	0.015	18.1	D
2912-54499-605	92.42192	24.38517	-10.6	0.8	4685	147	4.67	0.08	-0.14	0.05	19.114	0.064	16.940	0.008	16.002	0.009	15.655	0.007	15.428	0.010	49.7	D
2912-54499-611	92.31054	24.23417	-11.4	0.8	4714	38	4.73	0.15	-0.13	0.03	18.502	0.029	16.452	0.008	15.559	0.005	15.259	0.005	15.098	0.012	63.0	D
2912-54499-619	92.39379	24.39831	-7.2	0.8	4537	61	4.57	0.12	-0.40	0.04	19.207	0.049	16.977	0.009	16.026	0.006	15.718	0.009	15.546	0.013	45.2	D
2912-54499-620	92.38533	24.45678	-3.7	1.4	4378	161	4.59	0.17	-0.43	0.05	20.183	0.094	17.863	0.015	16.776	0.007	16.347	0.009	16.078	0.019	31.5	C
M67																						
2667-54142-361	132.6933300	11.871264	36.2	0.8	5446	54	4.60	0.06	+0.03	0.06	16.832	0.009	15.218	0.004	14.655	0.008	14.442	0.008	14.354	0.013	60.9	D
2667-54142-363	132.5890400	11.985747	33.2	0.8	5540	34	4.65	0.06	-0.03	0.05	16.776	0.022	15.270	0.014	14.749	0.016	14.567	0.011	14.565	0.013	60.1	C

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2667-54142-364	132.6169200	11.913978	34.2	0.9	6004	44	4.47	0.05	-0.04	0.03	15.551	0.021	14.316	0.014	13.926	0.016	13.774	0.011	13.786	0.013	63.7	C
2667-54142-372	132.6952900	11.897903	33.5	0.9	5367	61	4.66	0.06	-0.04	0.05	17.164	0.011	15.549	0.005	14.963	0.007	14.804	0.010	14.756	0.015	57.6	D
2667-54142-378	132.6899800	11.926571	37.7	0.8	5034	115	4.68	0.11	+0.11	0.00	18.069	0.026	16.114	0.005	15.397	0.039	15.181	0.008	15.087	0.027	51.0	D
2667-54142-379	132.5899200	11.839747	36.4	0.9	5861	45	4.52	0.06	+0.08	0.04	15.947	0.012	14.663	0.017	14.227	0.011	14.128	0.016	14.083	0.016	62.9	C
2667-54142-402	132.7021700	12.014961	35.9	0.9	5525	25	4.66	0.05	+0.02	0.04	16.821	0.022	15.304	0.014	14.788	0.016	14.581	0.011	14.528	0.013	59.5	C
2667-54142-404	132.7532100	11.886464	34.6	0.8	5725	45	4.57	0.05	+0.03	0.05	16.397	0.006	14.959	0.008	14.480	0.006	14.356	0.006	14.306	0.008	61.2	D
2667-54142-406	132.7005000	11.913181	34.7	0.9	6016	34	4.39	0.06	+0.04	0.03	15.433	0.021	14.199	0.006	13.820	0.034	13.718	0.010	13.725	0.025	63.7	D
2667-54142-407	132.7347100	11.858081	36.0	0.9	6074	46	4.41	0.04	-0.06	0.01	15.463	0.004	14.216	0.008	13.848	0.010	13.749	0.005	13.745	0.009	63.9	D
2667-54142-408	132.7437500	11.994214	34.2	0.9	5927	36	4.50	0.06	+0.02	0.03	15.646	0.012	14.363	0.007	13.974	0.003	13.848	0.004	13.809	0.007	63.3	D
2667-54142-409	132.7742500	11.886261	35.6	0.8	5551	40	4.64	0.05	-0.06	0.06	16.769	0.007	15.246	0.007	14.732	0.005	14.587	0.007	14.526	0.007	59.7	D
2667-54142-410	132.7377900	11.947350	32.7	0.9	5613	40	4.58	0.05	-0.02	0.04	16.603	0.010	15.149	0.002	14.642	0.006	14.495	0.006	14.456	0.011	60.1	D
2667-54142-411	132.8010300	11.787528	28.3	0.9	5524	44	4.63	0.06	+0.01	0.04	16.901	0.016	15.346	0.009	14.811	0.008	14.632	0.010	14.545	0.026	60.0	D
2667-54142-412	132.7361200	11.831808	34.5	0.9	5771	37	4.56	0.06	+0.01	0.04	16.177	0.007	14.804	0.005	14.356	0.008	14.226	0.005	14.201	0.007	62.3	D
2667-54142-413	132.7688200	11.862833	24.7	0.8	5901	61	4.46	0.06	-0.01	0.03	15.460	0.009	14.232	0.022	13.766	0.008	13.598	0.012	13.601	0.008	64.1	C
2667-54142-414	132.7769200	11.791894	38.6	0.9	4581	36	4.72	0.09	-0.11	0.05	18.984	0.023	16.814	0.007	15.939	0.005	15.672	0.021	15.507	0.027	49.1	D
2667-54142-415	132.7000800	11.828167	35.3	0.8	5801	36	4.54	0.06	+0.03	0.04	16.042	0.009	14.687	0.005	14.244	0.006	14.116	0.009	14.081	0.010	62.6	D
2667-54142-417	132.7567100	11.937789	34.4	0.8	5590	36	4.62	0.06	+0.05	0.04	16.634	0.009	15.122	0.004	14.607	0.007	14.455	0.006	14.403	0.010	60.9	D
2667-54142-418	132.7534700	11.814725	36.4	0.9	5810	28	4.56	0.05	-0.07	0.01	16.152	0.011	14.777	0.005	14.347	0.018	14.218	0.007	14.191	0.020	62.4	D
2667-54142-419	132.7431200	11.970697	32.4	1.0	5879	44	4.47	0.04	-0.02	0.05	15.951	0.006	14.639	0.004	14.221	0.005	14.092	0.004	14.074	0.006	62.5	D
2667-54142-420	132.7914300	11.771442	34.4	0.9	5822	37	4.40	0.07	-0.01	0.04	16.023	0.007	14.703	0.009	14.266	0.010	14.130	0.006	14.091	0.010	62.5	D
2667-54142-429	132.3948800	11.788092	34.6	0.9	5945	44	4.57	0.07	+0.01	0.03	15.760	0.014	14.484	0.018	14.134	0.013	13.964	0.016	13.967	0.014	63.0	C
2667-54142-441	132.8041200	11.950172	35.8	0.9	5866	21	4.50	0.04	+0.05	0.03	15.887	0.006	14.581	0.003	14.166	0.015	14.030	0.011	14.015	0.009	62.0	D
2667-54142-444	132.8395800	11.984572	31.1	1.0	6098	56	4.44	0.05	+0.09	0.04	15.495	0.012	14.225	0.006	13.854	0.011	13.741	0.012	13.758	0.008	63.3	D
2667-54142-445	132.7831700	11.981397	34.2	0.8	5725	38	4.53	0.06	+0.03	0.03	16.341	0.008	14.920	0.002	14.449	0.013	14.305	0.011	14.278	0.010	60.8	D
2667-54142-451	132.8012500	11.906319	35.3	0.9	6031	67	4.43	0.05	-0.02	0.05	15.531	0.004	14.269	0.004	13.885	0.013	13.768	0.009	13.768	0.005	63.5	D
2667-54142-452	132.7928000	12.025431	37.4	0.9	4902	103	4.81	0.09	-0.06	0.05	18.454	0.024	16.433	0.016	15.656	0.015	15.441	0.014	15.317	0.021	50.6	C
2667-54142-453	132.8423700	11.807839	23.2	0.8	5076	77	4.74	0.08	-0.02	0.04	17.862	0.023	16.006	0.007	15.310	0.012	15.085	0.020	14.932	0.020	55.3	D
2667-54142-454	132.8407700	11.861747	36.1	1.0	5957	52	4.49	0.06	-0.01	0.02	15.426	0.006	14.182	0.007	13.777	0.008	13.679	0.026	13.612	0.008	63.8	D
2667-54142-455	132.9283300	11.991872	33.2	1.0	6067	49	4.35	0.04	-0.03	0.05	15.368	0.004	14.148	0.004	13.768	0.008	13.666	0.009	13.656	0.006	63.6	D
2667-54142-457	132.9065800	11.945644	35.9	0.9	5851	33	4.53	0.05	+0.06	0.04	15.884	0.011	14.554	0.005	14.131	0.007	14.032	0.010	14.004	0.010	62.5	D
2667-54142-458	132.8022500	12.188075	34.8	0.8	5836	39	4.47	0.05	+0.05	0.05	15.896	0.017	14.566	0.022	14.119	0.011	14.002	0.017	13.995	0.015	62.0	C
2667-54142-459	132.8128300	11.822606	33.9	0.9	6042	48	4.39	0.04	-0.01	0.02	15.470	0.009	14.276	0.022	13.886	0.008	13.759	0.012	13.770	0.008	63.5	C
2667-54142-460	132.7881300	11.950017	35.5	0.9	5805	32	4.56	0.05	+0.03	0.04	16.016	0.007	14.692	0.002	14.265	0.013	14.138	0.010	14.124	0.006	61.9	D
2667-54142-463	132.5035400	11.702733	34.9	0.9	5981	49	4.46	0.04	+0.04	0.03	15.575	0.014	14.317	0.018	13.914	0.013	13.818	0.016	13.802	0.014	63.9	C

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\text{log } g}$ (dex)	[Fe/H] (dex)	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2667-54142-466	132.6327000	11.502099	36.3	0.8	5146	67	4.70	0.08	-0.03	0.07	17.693	0.028	15.902	0.015	15.245	0.016	15.048	0.015	14.973	0.014	56.5	C
2667-54142-467	132.5376200	11.557281	36.3	1.0	6069	43	4.29	0.09	-0.07	0.03	15.518	0.018	14.292	0.019	13.944	0.001	13.831	0.019	13.840	0.015	63.9	C
2667-54142-469	132.6607100	11.776742	33.8	0.9	5290	67	4.72	0.07	+0.06	0.03	17.370	0.014	15.708	0.017	15.100	0.011	14.879	0.016	14.831	0.017	58.2	C
2667-54142-476	132.5400400	11.645006	34.8	1.0	5846	44	4.51	0.05	-0.01	0.04	15.916	0.020	14.650	0.018	14.220	0.001	14.109	0.019	14.070	0.017	63.1	C
2667-54142-477	132.7222900	11.727772	35.7	0.9	5746	51	4.55	0.06	+0.00	0.04	15.956	0.011	14.582	0.004	14.117	0.005	13.953	0.017	13.917	0.011	63.5	D
2667-54142-478	132.6963700	11.715228	33.8	0.9	6007	45	4.45	0.04	+0.02	0.03	15.548	0.014	14.277	0.008	13.896	0.013	13.780	0.022	13.808	0.018	63.8	D
2667-54142-479	132.7179200	11.750975	35.3	0.8	5810	40	4.58	0.05	-0.01	0.04	16.138	0.010	14.793	0.004	14.357	0.005	14.220	0.019	14.208	0.013	62.6	D
2667-54142-481	132.7949200	11.664139	39.4	0.9	5780	33	4.58	0.05	+0.02	0.03	16.198	0.014	14.834	0.004	14.386	0.020	14.242	0.015	14.215	0.008	62.1	D
2667-54142-485	132.7586500	11.755369	31.7	0.8	5597	49	4.60	0.06	+0.07	0.04	16.658	0.007	15.177	0.006	14.670	0.006	14.512	0.010	14.488	0.012	60.6	D
2667-54142-486	132.7528300	11.678155	36.7	0.8	5324	63	4.64	0.07	+0.07	0.05	17.253	0.021	15.622	0.006	15.033	0.009	14.847	0.010	14.786	0.008	58.6	D
2667-54142-487	132.7741000	11.729775	41.7	0.9	5741	40	4.59	0.05	-0.01	0.05	15.582	0.008	14.219	0.007	13.763	0.013	13.620	0.010	13.600	0.007	64.2	D
2667-54142-491	132.7797500	11.596875	35.4	0.9	6066	40	4.42	0.05	-0.13	0.02	15.446	0.016	14.262	0.012	13.916	0.001	13.812	0.013	13.791	0.012	64.0	C
2667-54142-492	132.7834200	11.640567	37.2	1.0	5864	37	4.50	0.05	-0.02	0.04	15.916	0.016	14.625	0.012	14.208	0.001	14.111	0.013	14.076	0.012	63.2	C
2667-54142-496	132.7887500	11.559197	35.3	0.9	5701	34	4.54	0.05	-0.01	0.06	16.399	0.014	14.978	0.013	14.510	0.001	14.375	0.015	14.359	0.017	62.0	C
2667-54142-500	132.7791300	11.697017	34.3	1.1	4987	75	4.62	0.05	-0.06	0.04	17.746	0.018	15.936	0.005	15.220	0.011	14.964	0.008	14.844	0.009	57.8	D
2667-54142-504	132.8498300	11.580686	37.3	0.9	5718	43	4.62	0.06	-0.06	0.05	15.624	0.014	14.221	0.013	13.741	0.001	13.611	0.015	13.563	0.017	63.6	C
2667-54142-505	132.8408200	11.734822	37.3	0.9	5869	35	4.42	0.06	-0.00	0.03	15.655	0.009	14.345	0.007	13.911	0.006	13.765	0.007	13.743	0.009	61.7	D
2667-54142-507	132.8529400	11.718478	35.9	0.8	5591	46	4.57	0.06	-0.04	0.05	16.371	0.012	14.930	0.005	14.423	0.008	14.227	0.007	14.148	0.011	61.5	D
2667-54142-508	132.8550400	11.637817	33.8	0.8	5441	48	4.67	0.07	-0.04	0.02	17.057	0.011	15.468	0.008	14.919	0.007	14.750	0.011	14.694	0.009	58.8	D
2667-54142-516	132.8466200	11.654136	32.3	0.7	5635	26	4.66	0.04	+0.03	0.04	16.629	0.013	15.149	0.010	14.689	0.001	14.471	0.008	14.423	0.011	60.1	C
2667-54142-517	133.0788800	11.397178	35.0	0.8	5525	49	4.60	0.06	+0.04	0.05	16.797	0.014	15.341	0.026	14.788	0.014	16.922	0.163	14.601	0.016	59.2	C
2667-54142-518	133.0567100	11.393450	36.2	0.9	5805	29	4.57	0.05	-0.05	0.03	16.081	0.016	14.723	0.014	14.297	0.020	14.176	0.001	14.159	0.014	62.1	C
2667-54142-522	133.0017500	11.935228	38.4	1.1	5904	37	4.48	0.05	+0.06	0.03	15.808	0.008	14.486	0.005	14.069	0.004	13.951	0.007	13.947	0.006	63.2	D
2667-54142-531	132.9857500	11.790236	36.2	0.9	5836	9	4.52	0.06	+0.00	0.03	15.810	0.008	14.526	0.004	14.117	0.004	14.009	0.009	13.998	0.013	63.4	D
2667-54142-533	132.9950000	11.804089	34.2	0.9	5155	60	4.77	0.08	-0.04	0.06	17.646	0.011	15.849	0.005	15.211	0.005	15.006	0.008	14.931	0.010	57.7	D
2667-54142-537	132.9948800	11.833992	33.4	0.9	5881	52	4.49	0.05	-0.01	0.03	15.755	0.005	14.480	0.007	14.049	0.007	13.901	0.006	13.872	0.010	63.5	D
2667-54142-538	132.9619800	11.869030	34.3	0.8	5013	94	4.77	0.10	+0.10	0.00	18.114	0.015	16.185	0.006	15.461	0.008	15.244	0.008	15.141	0.013	53.9	D
2667-54142-539	133.0190000	11.980183	37.0	1.0	5075	58	4.74	0.10	-0.02	0.06	17.842	0.015	15.989	0.012	15.327	0.008	15.112	0.007	15.002	0.007	55.9	D
2667-54142-540	132.9941700	11.870869	32.8	0.8	5428	57	4.67	0.07	+0.06	0.03	17.157	0.007	15.515	0.005	14.941	0.007	14.770	0.008	14.697	0.013	58.9	D
2667-54142-541	133.1261300	11.714000	33.1	1.5	5904	22	4.40	0.05	-0.11	0.01	15.488	0.013	14.232	0.019	13.860	0.001	13.858	0.001	13.760	0.015	38.4	C
2667-54142-546	133.0400800	11.779472	35.6	1.0	6078	43	4.33	0.03	-0.08	0.04	15.379	0.011	14.160	0.008	13.790	0.009	13.693	0.004	13.703	0.006	63.7	D
2667-54142-547	133.1811700	11.610503	34.4	0.8	5487	47	4.70	0.06	+0.04	0.05	17.022	0.012	15.458	0.015	14.913	0.014	14.739	0.013	14.702	0.011	58.1	C
2667-54142-550	133.0475000	11.675556	33.4	0.9	5971	38	4.48	0.05	+0.05	0.02	15.646	0.013	14.373	0.019	13.979	0.001	13.988	0.001	13.843	0.015	63.3	C
2667-54142-551	132.9911100	11.762748	38.2	0.8	4958	60	4.63	0.07	-0.12	0.07	17.628	0.015	15.807	0.004	15.105	0.005	14.833	0.011	14.658	0.012	57.4	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{\text{T}_{\text{eff}}}$ (K)	log g (dex)	$\sigma_{\log g}$ (dex)	[Fe/H]	$\sigma_{[\text{Fe}/\text{H}]}$ (dex)	u	σ_u	g	σ_g	r	σ_r	i	σ_i	z	σ_z	$\langle \text{S/N} \rangle$	Tag
2667-54142-561	133.0414600	12.175214	34.4	0.9	6026	29	4.52	0.05	+0.01	0.02	15.536	0.016	14.275	0.017	13.928	0.015	13.807	0.019	13.779	0.015	62.9	C
2667-54142-566	133.2035400	12.046594	30.0	0.8	5586	34	4.55	0.04	-0.02	0.05	16.563	0.017	15.085	0.017	14.569	0.015	14.431	0.019	14.359	0.015	61.2	C
2667-54142-575	133.0644200	11.883697	34.3	0.9	5901	55	4.54	0.06	+0.03	0.03	15.930	0.007	14.640	0.012	14.217	0.009	14.104	0.005	14.084	0.008	62.6	D
2667-54142-576	133.0925800	11.817458	38.6	1.0	5569	45	4.55	0.04	-0.08	0.05	16.596	0.007	15.122	0.012	14.599	0.012	14.420	0.005	14.353	0.009	60.7	D
2667-54142-579	133.0659200	11.775536	35.3	0.8	5598	41	4.63	0.05	-0.03	0.06	16.694	0.010	15.206	0.009	14.701	0.011	14.535	0.007	14.493	0.006	61.1	D
NGC 6791																						
2800-54326-151	290.31055	37.77577	-47.7	1.2	4904	113	4.18	0.15	+0.41	0.01	19.588	0.061	17.289	0.008	16.520	0.005	16.313	0.010	16.197	0.014	38.3	D
2800-54326-152	290.27792	37.80231	-45.8	2.1	5632	83	4.48	0.11	+0.42	0.01	19.716	0.075	18.013	0.009	17.483	0.011	17.356	0.013	17.289	0.019	22.9	D
2800-54326-154	290.25604	37.80142	-47.1	1.4	4542	94	3.89	0.24	+0.46	0.04	18.600	0.030	15.888	0.011	14.939	0.005	14.643	0.006	14.471	0.020	62.2	D
2800-54326-155	290.29071	37.76133	-54.5	1.7	5623	97	4.22	0.04	+0.42	0.04	19.410	0.055	17.773	0.007	17.270	0.009	17.171	0.010	17.154	0.018	26.3	D
2800-54326-156	290.28943	37.78397	-43.9	1.4	4810	123	4.07	0.14	+0.42	0.52	19.129	0.056	16.572	0.007	15.690	0.005	15.436	0.011	15.280	0.010	52.4	D
2800-54326-157	290.31383	37.79217	-41.4	2.0	5689	109	4.32	0.10	+0.35	0.04	19.585	0.055	17.941	0.009	17.405	0.010	17.294	0.015	17.308	0.021	25.1	D
2800-54326-159	290.27624	37.74988	-45.8	0.4	4535	97	3.53	0.22	+0.46	0.04	17.176	0.016	14.589	0.007	13.631	0.005	13.324	0.014	13.180	0.006	70.5	D
2800-54326-160	290.30839	37.75263	-47.2	0.8	4883	33	4.07	0.12	+0.42	0.22	18.966	0.046	16.378	0.009	15.531	0.013	15.280	0.017	15.149	0.021	54.7	D
2800-54326-161	290.26887	37.72120	-46.5	1.1	5111	134	4.12	0.14	+0.40	0.05	19.560	0.057	17.443	0.012	16.706	0.009	16.512	0.009	16.451	0.019	34.5	D
2800-54326-165	290.23537	37.77058	-55.5	2.8	5752	249	3.95	0.08	+0.15	0.10	19.106	0.050	17.508	0.013	16.979	0.008	16.865	0.009	16.837	0.023	29.9	D
2800-54326-169	290.24479	37.72029	-45.3	0.4	4481	90	3.01	0.02	+0.27	0.00	17.480	0.021	14.708	0.007	13.711	0.007	13.393	0.016	13.248	0.005	70.1	D
2800-54326-171	290.25504	37.73653	-56.4	1.8	5464	53	4.25	0.07	+0.18	0.06	19.375	0.052	17.833	0.007	17.286	0.010	17.165	0.013	17.139	0.015	24.5	D
2800-54326-172	290.20854	37.79775	-45.3	1.6	5376	80	4.37	0.04	+0.42	0.26	19.260	0.054	17.466	0.011	16.890	0.007	16.772	0.011	16.712	0.020	31.8	D
2800-54326-173	290.23082	37.79705	-47.9	1.1	4924	86	4.31	0.07	+0.40	0.02	19.822	0.078	17.472	0.007	16.659	0.007	16.419	0.014	16.325	0.011	34.0	D
2800-54326-174	290.25360	37.75939	-46.8	0.5	4414	80	3.40	0.27	+0.46	0.04	17.608	0.022	14.678	0.005	13.643	0.005	13.316	0.022	13.136	0.004	71.1	D
2800-54326-175	290.25360	37.77766	-49.5	0.6	4476	113	3.10	0.01	+0.46	0.04	17.502	0.018	14.689	0.005	13.682	0.005	13.378	0.019	13.203	0.005	73.3	D
2800-54326-176	290.23775	37.74739	-50.1	1.1	5457	58	4.32	0.05	+0.33	0.06	18.561	0.029	16.868	0.006	16.317	0.009	16.189	0.018	16.155	0.009	40.7	D
2800-54326-178	290.21406	37.77513	-48.7	0.5	4601	124	3.56	0.16	+0.46	0.04	17.057	0.018	14.279	0.004	13.334	0.003	13.031	0.025	12.901	0.007	71.3	D
2800-54326-180	290.22034	37.75919	-45.6	0.6	4526	99	3.22	0.01	+0.43	0.01	17.349	0.017	14.653	0.011	13.690	0.006	13.402	0.009	13.239	0.022	70.3	D
2800-54326-181	290.18823	37.74275	-49.6	0.4	4369	86	3.55	0.23	+0.30	0.08	17.959	0.023	15.062	0.012	14.009	0.006	13.667	0.007	13.490	0.017	68.5	D
2800-54326-182	290.13027	37.77522	-47.4	2.3	5451	210	4.12	0.04	+0.19	0.07	19.171	0.049	17.534	0.008	17.027	0.012	16.925	0.010	16.903	0.016	28.7	D
2800-54326-183	290.18888	37.78830	-52.4	0.6	4478	96	3.41	0.21	+0.46	0.04	17.508	0.018	14.700	0.005	13.715	0.006	13.421	0.014	13.240	0.008	69.8	D
2800-54326-184	290.12773	37.75476	-50.6	1.8	5540	7	4.11	0.13	+0.36	0.04	19.026	0.044	17.432	0.006	16.936	0.009	16.818	0.011	16.807	0.016	29.9	D
2800-54326-185	290.16345	37.74368	-46.8	0.6	4483	101	3.16	0.28	+0.46	0.04	17.712	0.021	14.929	0.004	13.950	0.005	13.670	0.014	13.514	0.009	68.6	D
2800-54326-186	290.15705	37.72575	-49.4	0.8	4832	25	4.04	0.12	+0.42	0.21	18.932	0.036	16.425	0.009	15.570	0.007	15.339	0.009	15.230	0.014	53.6	D
2800-54326-189	290.16875	37.78517	-45.9	0.9	4930	3	4.23	0.12	+0.41	0.02	19.403	0.057	16.992	0.008	16.165	0.007	15.932	0.010	15.808	0.017	43.7	D
2800-54326-190	290.17674	37.76421	-46.4	1.0	4667	135	4.00	0.17	+0.46	0.04	18.788	0.038	16.170	0.005	15.268	0.006	14.997	0.012	14.855	0.009	57.7	D
2800-54326-194	290.17419	37.70602	-53.9	1.5	5599	194	4.07	0.20	+0.20	0.06	19.100	0.053	17.390	0.013	16.880	0.007	16.775	0.007	16.795	0.022	31.5	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log <i>g</i> (dex)	$\sigma_{log g}$ (dex)	[Fe/H]	$\sigma_{[Fe/H]}$ (dex)	<i>u</i>	σ_u	<i>g</i>	σ_g	<i>r</i>	σ_r	<i>i</i>	σ_i	<i>z</i>	σ_z	<S/N>	Tag
2800-54326-197	290.18075	37.72142	-46.7	1.3	4584	63	3.96	0.03	+0.34	0.12	18.901	0.039	16.433	0.011	15.570	0.008	15.322	0.010	15.203	0.019	53.4	D
2800-54326-199	290.16395	37.80132	-45.7	1.5	4280	88	2.77	0.03	+0.46	0.04	17.828	0.024	14.796	0.005	13.668	0.004	13.284	0.009	13.039	0.013	70.2	D
2800-54326-424	290.13763	37.82931	-46.4	1.6	5482	74	4.34	0.08	+0.24	0.09	19.743	0.086	18.025	0.017	17.451	0.014	17.283	0.007	17.223	0.020	28.1	D
2800-54326-462	290.18642	37.85478	-42.1	1.5	5627	48	4.43	0.11	+0.19	0.08	19.160	0.044	17.610	0.009	17.122	0.010	17.029	0.007	16.999	0.021	33.7	D
2800-54326-464	290.27438	37.82203	-43.7	1.2	5569	56	4.21	0.07	+0.36	0.04	18.942	0.039	17.296	0.016	16.749	0.010	16.654	0.014	16.638	0.017	40.6	D
2800-54326-465	290.24050	37.81700	-44.9	0.5	4481	70	3.82	0.27	+0.46	0.04	18.283	0.029	15.529	0.012	14.548	0.004	14.218	0.014	14.033	0.008	66.2	D
2800-54326-466	290.28500	37.83567	-41.7	1.2	5043	108	4.30	0.11	+0.44	0.02	19.549	0.062	17.443	0.014	16.709	0.011	16.539	0.012	16.455	0.023	40.4	D
2800-54326-469	290.23600	37.85450	-47.4	1.4	5549	89	4.38	0.12	+0.16	0.11	19.349	0.047	17.760	0.012	17.217	0.007	17.126	0.009	17.121	0.020	30.9	D
2800-54326-471	290.21029	37.83431	-46.3	1.1	5427	43	4.21	0.12	+0.44	0.05	18.860	0.033	17.227	0.010	16.662	0.008	16.551	0.011	16.514	0.014	41.5	D
2800-54326-473	290.25912	37.84825	-48.0	1.1	5592	6	4.08	0.09	+0.36	0.04	18.871	0.031	17.240	0.015	16.646	0.007	16.529	0.014	16.513	0.021	41.0	D
2800-54326-475	290.19271	37.81957	-43.2	0.5	4503	71	3.74	0.26	+0.45	0.03	18.116	0.027	15.317	0.004	14.348	0.010	14.038	0.010	13.844	0.007	67.9	D
2800-54326-476	290.18508	37.83414	-45.3	1.3	5702	40	4.41	0.14	+0.33	0.07	18.942	0.037	17.306	0.005	16.840	0.006	16.727	0.008	16.712	0.012	36.0	D
2800-54326-477	290.24383	37.83556	-44.4	0.8	4713	123	4.04	0.09	+0.28	0.00	19.005	0.045	16.586	0.014	15.718	0.006	15.486	0.011	15.364	0.022	54.3	D
2800-54326-479	290.16329	37.83461	-46.8	1.6	5513	71	4.46	0.07	+0.31	0.06	19.581	0.054	18.005	0.014	17.433	0.011	17.317	0.010	17.297	0.020	27.9	D
2800-54326-480	290.15792	37.81897	-44.4	1.3	5462	95	4.14	0.04	+0.32	0.04	19.096	0.040	17.424	0.007	16.824	0.007	16.646	0.007	16.594	0.013	38.3	D
2800-54326-497	290.30292	37.80739	-57.7	1.3	5606	61	4.28	0.07	+0.22	0.07	19.042	0.031	17.517	0.010	16.987	0.010	16.882	0.011	16.865	0.017	35.7	D
2821-54393-141	290.29286	37.73219	-46.8	1.0	5617	91	4.61	0.06	+0.21	0.08	19.825	0.083	18.072	0.010	17.535	0.013	17.413	0.012	17.426	0.020	47.2	D
2821-54393-142	290.29538	37.78913	-40.9	2.0	5215	133	4.87	0.08	-0.08	0.07	20.729	0.190	18.957	0.012	18.334	0.013	18.146	0.014	18.112	0.036	27.7	D
2821-54393-145	290.31488	37.78708	-44.0	1.1	5635	88	4.67	0.09	+0.23	0.08	19.869	0.086	18.099	0.010	17.561	0.009	17.447	0.009	17.420	0.024	45.8	D
2821-54393-146	290.28602	37.71747	-43.9	1.3	5524	89	4.59	0.14	+0.38	0.03	20.285	0.119	18.329	0.010	17.783	0.009	17.658	0.012	17.620	0.026	41.0	D
2821-54393-149	290.29258	37.75206	-43.2	2.2	5802	76	4.56	0.17	+0.39	0.04	19.260	0.056	17.657	0.011	17.191	0.010	17.071	0.018	17.076	0.019	24.3	D
2821-54393-161	290.26746	37.73246	-48.6	0.9	5700	72	4.44	0.08	+0.19	0.06	19.306	0.057	17.635	0.014	17.130	0.011	17.021	0.011	17.026	0.026	61.8	D
2821-54393-165	290.16959	37.70742	-48.7	1.5	4911	109	4.72	0.11	+0.10	0.12	21.185	0.299	18.973	0.018	18.322	0.012	18.149	0.013	18.092	0.036	27.4	D
2821-54393-166	290.21646	37.79267	-43.8	1.3	5392	104	4.66	0.09	+0.19	0.03	20.728	0.194	18.723	0.017	18.125	0.009	17.960	0.011	17.877	0.031	38.9	D
2821-54393-167	290.25304	37.76144	-43.9	1.3	5312	71	4.58	0.09	+0.18	0.09	20.543	0.126	18.574	0.012	17.962	0.013	17.800	0.017	17.832	0.025	39.6	D
2821-54393-169	290.23571	37.74950	-43.6	1.2	5246	50	4.66	0.10	+0.21	0.09	20.667	0.153	18.605	0.013	17.982	0.009	17.825	0.013	17.760	0.037	36.8	D
2821-54393-172	290.23312	37.77947	-48.5	1.1	5383	61	4.65	0.11	+0.35	0.10	20.074	0.094	18.359	0.013	17.775	0.011	17.659	0.010	17.621	0.028	45.8	D
2821-54393-173	290.23404	37.72550	-46.5	1.2	5415	44	4.52	0.07	+0.16	0.09	19.884	0.090	18.208	0.010	17.656	0.013	17.535	0.019	17.525	0.021	39.4	D
2821-54393-174	290.27438	37.76821	-47.0	1.2	5495	127	4.69	0.12	+0.23	0.05	20.300	0.124	18.441	0.014	17.885	0.013	17.742	0.012	17.733	0.032	37.1	D
2821-54393-176	290.23888	37.79792	-42.4	1.3	5078	146	4.59	0.18	+0.28	0.06	21.092	0.256	19.293	0.017	18.564	0.014	18.384	0.014	18.338	0.045	28.7	D
2821-54393-177	290.25525	37.78111	-44.8	1.1	5360	1	4.55	0.05	+0.27	0.01	20.204	0.109	18.520	0.014	17.921	0.010	17.779	0.009	17.751	0.025	39.9	D
2821-54393-178	290.27083	37.79364	-47.9	1.2	5279	83	4.63	0.09	+0.26	0.09	20.754	0.160	18.669	0.012	18.040	0.011	17.877	0.015	17.801	0.026	35.4	D
2821-54393-179	290.23317	37.69495	-46.4	0.9	5641	60	4.40	0.07	+0.10	0.07	19.190	0.054	17.556	0.014	17.031	0.007	16.913	0.007	16.886	0.026	67.3	D
2821-54393-182	290.19167	37.75022	-45.0	1.1	5410	76	4.54	0.13	+0.10	0.06	19.926	0.088	18.170	0.013	17.616	0.007	17.494	0.009	17.465	0.023	47.4	D

Table 5—Continued

spSpec name	α (deg)	δ (deg)	RV (km s ⁻¹)	σ_{RV} (km s ⁻¹)	T _{eff} (K)	$\sigma_{T_{eff}}$ (K)	log <i>g</i> (dex)	$\sigma_{log g}$ (dex)	[Fe/H]	$\sigma_{[Fe/H]}$ (dex)	<i>u</i>	σ_u	<i>g</i>	σ_g	<i>r</i>	σ_r	<i>i</i>	σ_i	<i>z</i>	σ_z	$\langle S/N \rangle$	Tag
2821-54393-183	290.16181	37.72236	-48.3	0.9	5499	66	4.36	0.08	+0.16	0.08	19.416	0.058	17.838	0.011	17.333	0.010	17.229	0.009	17.239	0.022	57.6	D
2821-54393-184	290.21133	37.69576	-37.0	1.6	5060	84	4.70	0.08	+0.25	0.04	21.085	0.285	19.030	0.017	18.342	0.013	18.176	0.018	18.003	0.032	28.7	D
2821-54393-185	290.16196	37.79569	-54.9	1.0	5571	6	4.63	0.09	+0.40	0.03	20.033	0.104	18.345	0.009	17.755	0.011	17.625	0.013	17.561	0.021	42.2	D
2821-54393-187	290.18507	37.73330	-49.3	1.0	5583	44	4.50	0.10	+0.19	0.06	19.404	0.052	17.728	0.012	17.240	0.008	17.114	0.007	17.136	0.022	60.4	D
2821-54393-188	290.16150	37.74609	-43.1	1.6	4903	57	4.56	0.11	+0.41	0.02	20.780	0.164	19.049	0.016	18.334	0.010	18.160	0.014	18.113	0.030	27.0	D
2821-54393-190	290.21180	37.71344	-43.1	2.6	4830	121	4.67	0.19	+0.06	0.03	20.372	0.287	19.594	0.023	18.796	0.015	18.592	0.015	18.565	0.051	19.6	D
2821-54393-191	290.16200	37.77697	-50.5	1.2	5297	68	4.51	0.07	-0.03	0.09	20.257	0.131	18.431	0.012	17.824	0.009	17.716	0.010	17.689	0.026	40.8	D
2821-54393-192	290.14174	37.74134	-57.2	1.8	4720	107	4.65	0.10	-0.03	0.09	20.348	0.231	19.289	0.016	18.544	0.011	18.309	0.014	18.198	0.033	23.0	D
2821-54393-193	290.14857	37.75947	-44.3	1.8	4973	24	4.53	0.13	-0.25	0.06	20.833	0.188	18.714	0.010	18.062	0.009	17.911	0.010	17.903	0.029	34.8	D
2821-54393-194	290.18383	37.77736	-45.6	1.0	5451	79	4.40	0.07	+0.34	0.03	19.960	0.104	18.218	0.012	17.640	0.009	17.508	0.012	17.462	0.026	48.3	D
2821-54393-195	290.20292	37.76702	-44.6	1.4	4897	99	4.66	0.09	+0.19	0.03	21.249	0.232	19.101	0.018	18.420	0.012	18.243	0.015	18.162	0.033	27.5	D
2821-54393-196	290.21350	37.74117	-48.7	1.0	5459	64	4.46	0.08	+0.28	0.07	19.907	0.089	18.197	0.011	17.638	0.010	17.527	0.013	17.511	0.033	47.3	D
2821-54393-197	290.14430	37.78641	-46.1	1.0	5585	53	4.49	0.08	+0.30	0.05	19.492	0.062	17.833	0.007	17.329	0.006	17.208	0.009	17.198	0.019	56.7	D
2821-54393-199	290.19034	37.71489	-48.1	1.9	4838	67	4.75	0.16	+0.22	0.03	20.517	0.225	19.162	0.017	18.474	0.014	18.325	0.012	18.261	0.036	24.9	D
2821-54393-235	290.12569	37.76434	-42.1	1.1	5503	56	4.31	0.09	+0.09	0.10	19.348	0.047	17.648	0.007	17.120	0.009	17.012	0.011	17.011	0.022	63.0	D
2821-54393-436	290.12584	37.81327	-44.3	1.2	5320	14	4.40	0.10	+0.08	0.12	20.484	0.139	18.557	0.016	17.927	0.013	17.732	0.009	17.650	0.020	42.9	D
2821-54393-438	290.14612	37.83670	-49.8	0.8	5509	87	4.29	0.08	+0.27	0.06	19.623	0.078	17.927	0.016	17.334	0.018	17.185	0.006	17.121	0.017	62.2	D
2821-54393-439	290.11927	37.79796	-44.2	0.9	5497	26	4.27	0.05	+0.11	0.09	19.364	0.062	17.692	0.008	17.159	0.014	17.045	0.010	17.024	0.015	59.1	D
2821-54393-440	290.15288	37.81589	-35.2	1.1	5354	102	4.40	0.06	+0.11	0.05	19.651	0.065	17.798	0.009	17.165	0.009	16.959	0.012	16.896	0.016	64.9	D
2821-54393-468	290.26379	37.84733	-49.7	1.5	4866	45	4.71	0.10	+0.25	0.05	21.425	0.296	19.449	0.020	18.625	0.015	18.434	0.020	18.438	0.043	23.3	D
2821-54393-469	290.28646	37.80753	-41.8	1.2	5226	169	4.52	0.09	+0.30	0.03	21.200	0.236	18.990	0.024	18.310	0.015	18.141	0.020	18.127	0.034	32.8	D
2821-54393-472	290.26775	37.82575	-45.5	1.0	5302	73	4.54	0.11	+0.33	0.04	20.296	0.107	18.564	0.015	17.963	0.010	17.830	0.016	17.749	0.033	41.9	D
2821-54393-473	290.18250	37.84431	-42.4	1.1	5215	71	4.42	0.10	+0.05	0.05	20.299	0.105	18.535	0.013	17.918	0.012	17.787	0.014	17.741	0.027	42.9	D
2821-54393-474	290.22450	37.83158	-46.9	0.9	5613	73	4.70	0.13	+0.24	0.07	19.818	0.074	18.064	0.036	17.597	0.009	17.486	0.012	17.486	0.026	47.9	D
2821-54393-475	290.20554	37.84583	-40.0	1.5	5207	131	4.63	0.08	+0.27	0.04	21.165	0.260	19.129	0.017	18.436	0.012	18.325	0.013	18.226	0.035	27.7	D
2821-54393-478	290.24763	37.83678	-48.9	1.1	5531	88	4.32	0.10	+0.26	0.07	19.933	0.067	18.175	0.012	17.606	0.010	17.493	0.013	17.493	0.029	48.9	D
2821-54393-479	290.23475	37.81458	-41.3	1.1	5029	84	4.62	0.14	+0.23	0.10	20.541	0.147	18.509	0.015	17.775	0.011	17.615	0.010	17.550	0.019	44.7	D
2821-54393-480	290.23092	37.84886	-44.3	2.5	5374	229	4.65	0.10	+0.39	0.14	20.482	0.122	18.827	0.014	18.173	0.011	18.047	0.013	17.981	0.029	16.6	D

Note. — SSPP-derived properties of the true member stars selected from all clusters in our sample. Column 1 lists the spSpec name, which identifies the star on the spectral plate in the form of spectroscopic plug-plate number (four digits), Modified Julian Date (five digits), and fiber used (three digits). For details on how the uncertainties in these parameters are estimated, see Paper I. Values with an ellipsis were problematic and have been omitted. The final column indicates whether photometric values were drawn from “Best” photometry (B), the “Uber calibration” (U), the CASJOBS database (C), or the DAOPHOT crowded-field reduction (D).

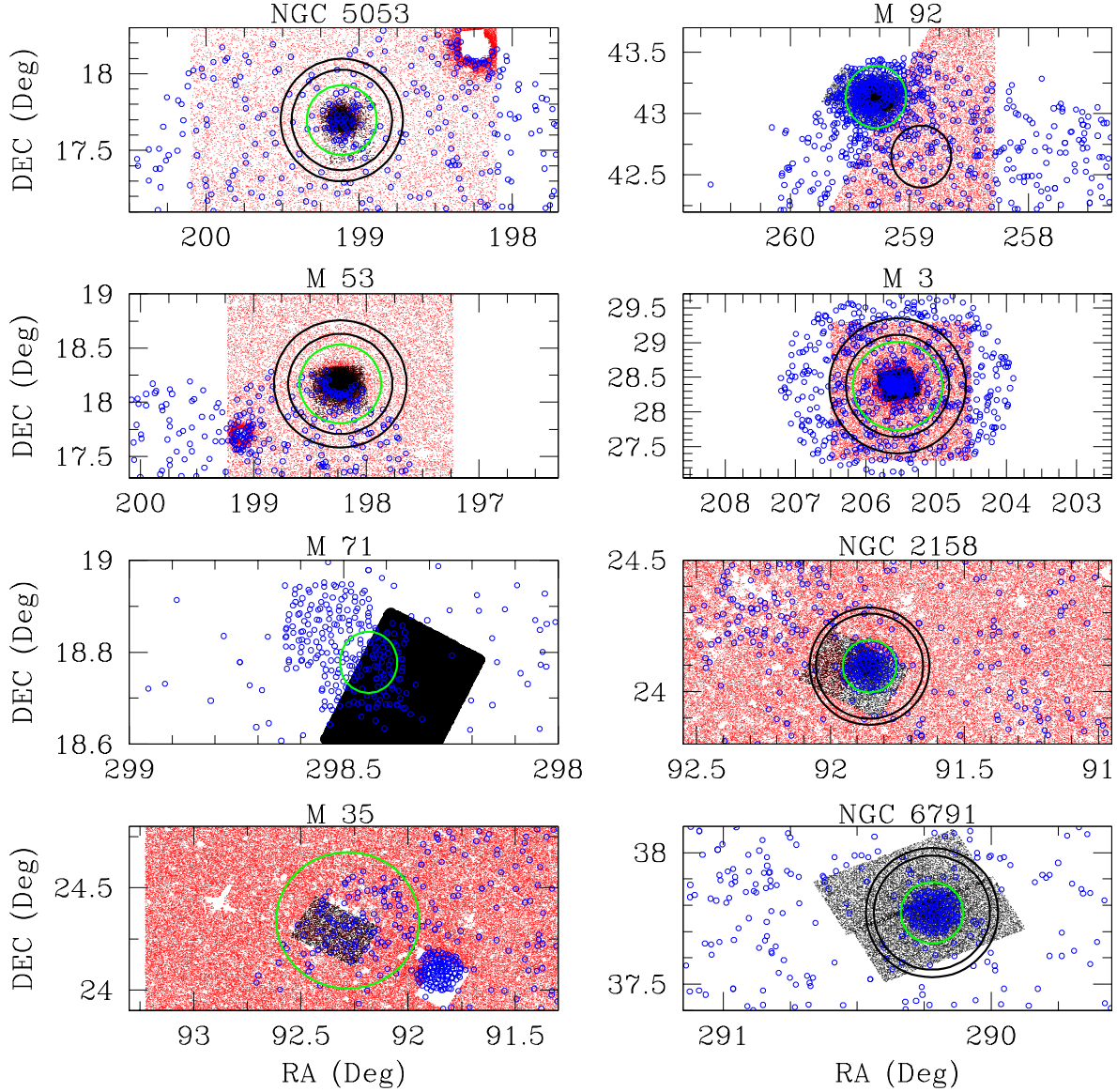


Fig. 1.— Stars with available photometry in the fields of NGC 5053, M92, M53, M3, M71, NGC 2158, M35, and NGC 6791. The black dots are stars from the crowded-field photometric analysis, the red dots are stars with photometry from the SDSS PHOTO pipeline, and the blue open circles are stars with SDSS spectroscopy. The green circle is the cluster’s tidal radius (taken here as the cluster region) and the annulus between the two black circles constitutes the field region. The green circles are $13.67'$, $15.17'$, $21.75'$, $38.19'$, $4.0'$, $6.0'$, $20.0'$, and $7.0'$ in radius, respectively. In the case of M92, the cluster’s proximity to the edge of the scan prevented an adequate annular field region; it was taken adjacent to the cluster region. NGC 2158 and NGC 6791 are open clusters, but due to their evolved nature, they are treated the same as globular clusters for the identification of likely true members. A larger radius was used for these clusters than those listed by Dias et al. (2002), in order to include as many member stars as possible.

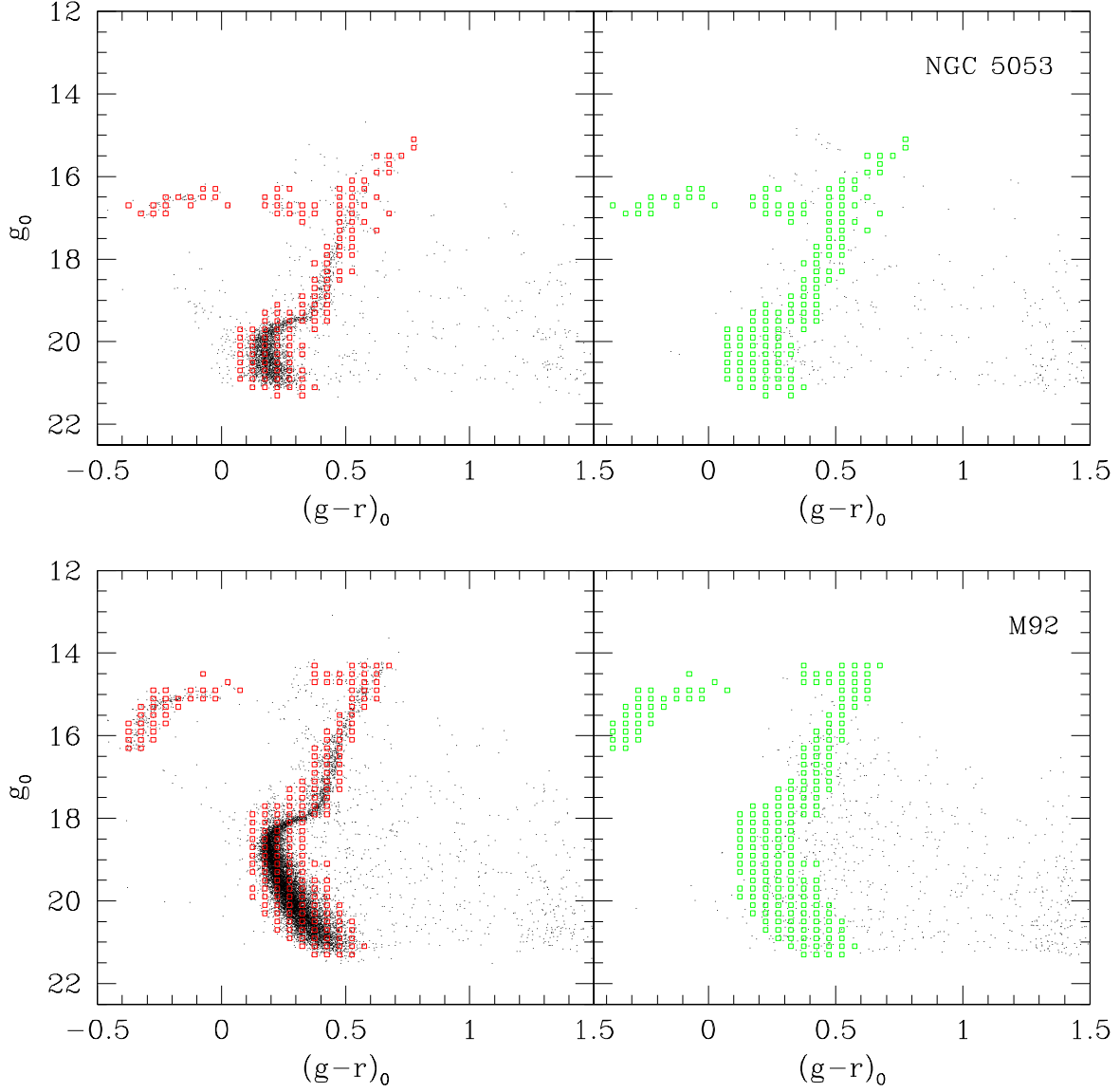


Fig. 2.— Color-Magnitude Diagrams of the stars from NGC 5053 (upper panels) and M92 (lower panels) inside the tidal radius (left-hand panels) and inside the field region (right-hand panels). The small boxes represent the sub-grids that were selected in the first cut of the CMD mask algorithm, and contain the stars used the subsequent analysis.

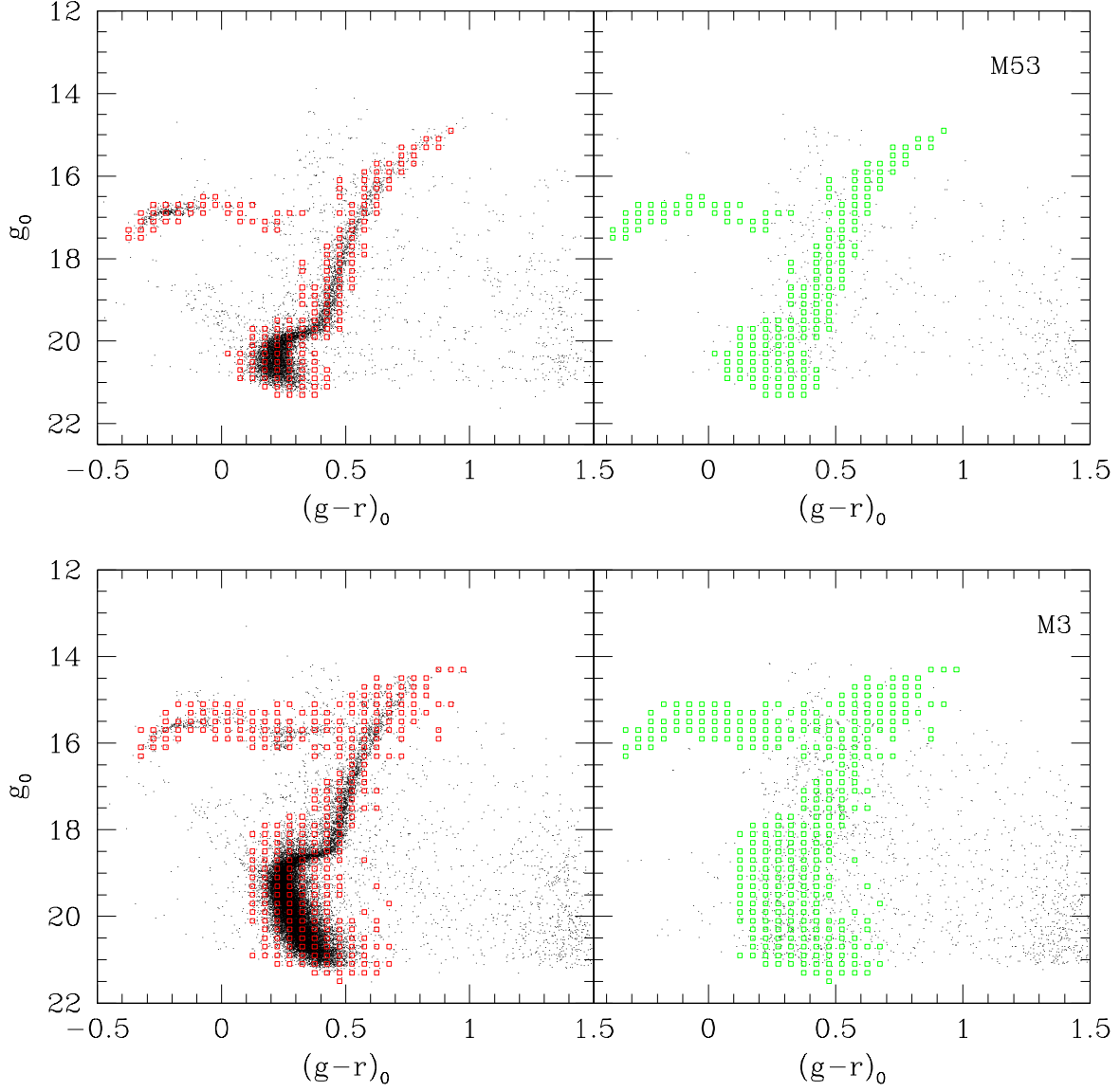


Fig. 3.— Same as Fig. 2, but for M53 (upper panels) and M3 (lower panels).

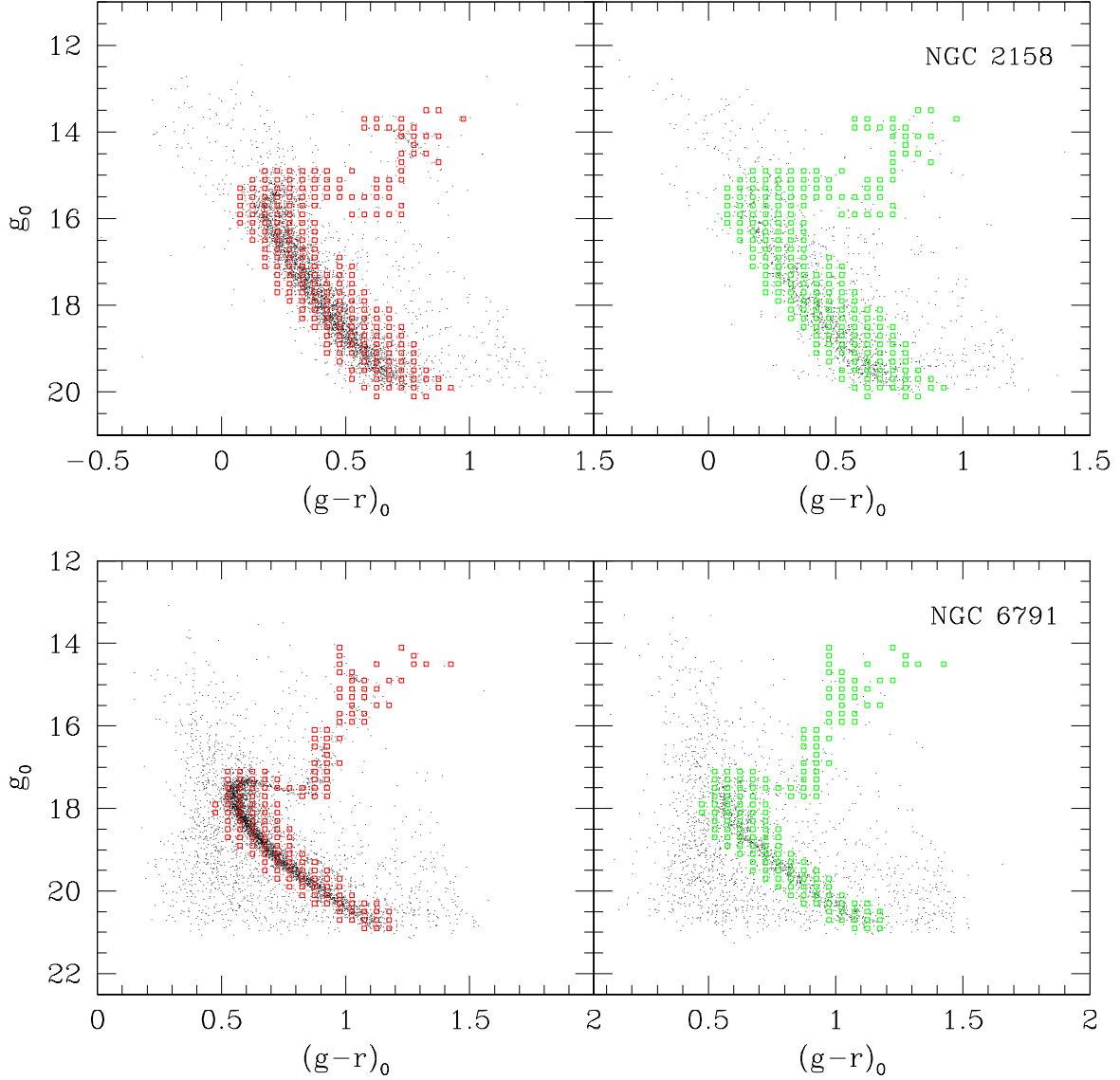


Fig. 4.— Same as Fig. 2, but for NGC 2158 (upper panels) and NGC 6791 (lower panels). Due to the highly-evolved nature of these open clusters, they were treated in the member selection process as if they were globular clusters.

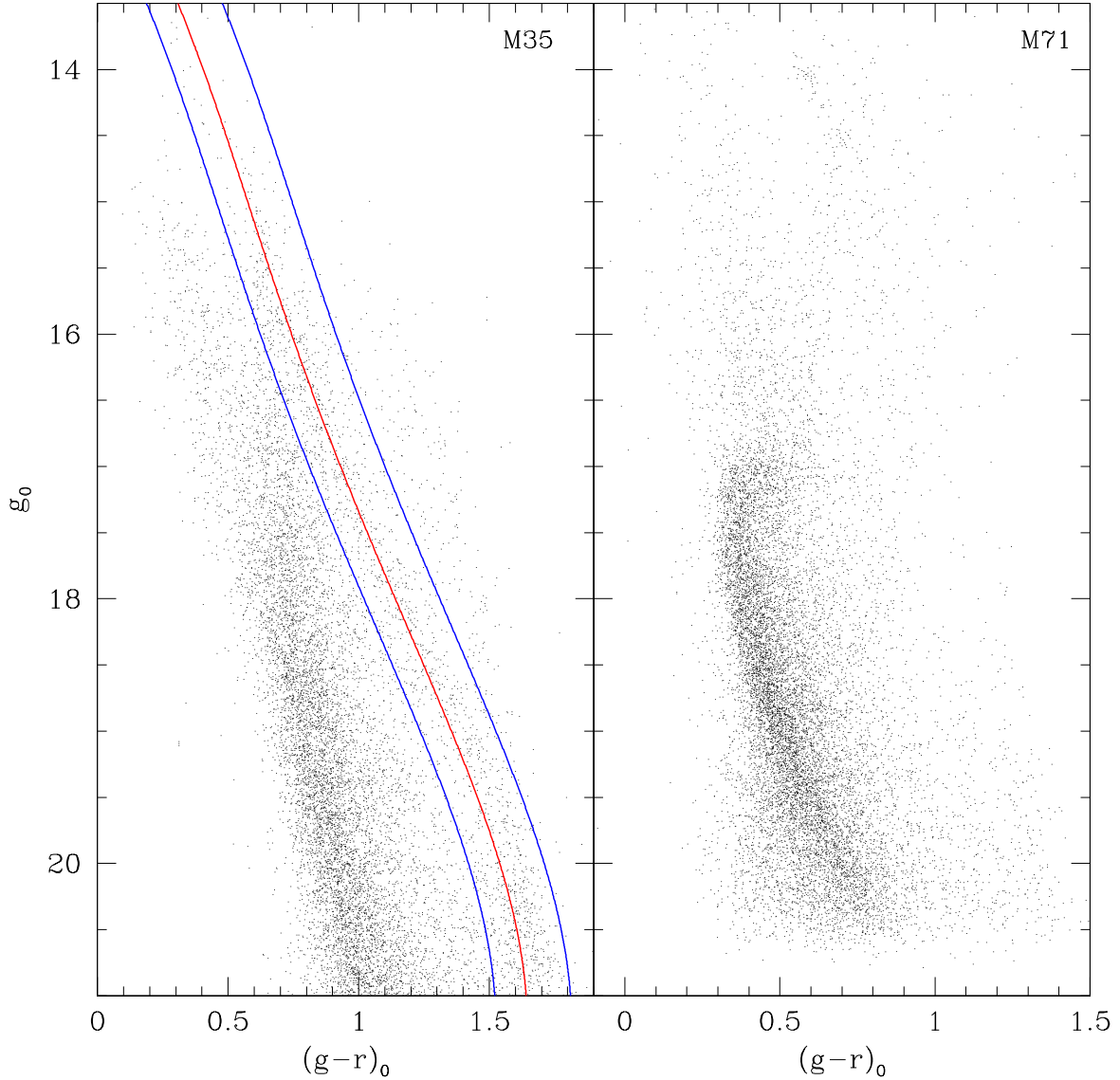


Fig. 5.— Same as Fig. 2, but for M35 (left-hand panel) and M71 (right-hand panel). The red line in M35 is the fiducial from a fourth-order polynomial fit, while the blue lines define the offsets of $^{+0.17}_{-0.12}$ mag inside of which were selected stars regarded as likely members from the photometric data. Because of M35’s low Galactic latitude, the dense stripe of stars on the blue side of the main sequence is due to superposed disk stars. Member stars for M71 were selected strictly by radial velocity and metallicity cuts rather than by using the CMD first; no photometry was used for analysis of this cluster due to poor calibration. For this reason, the CMD for M71 is shown differently from the other globular clusters.

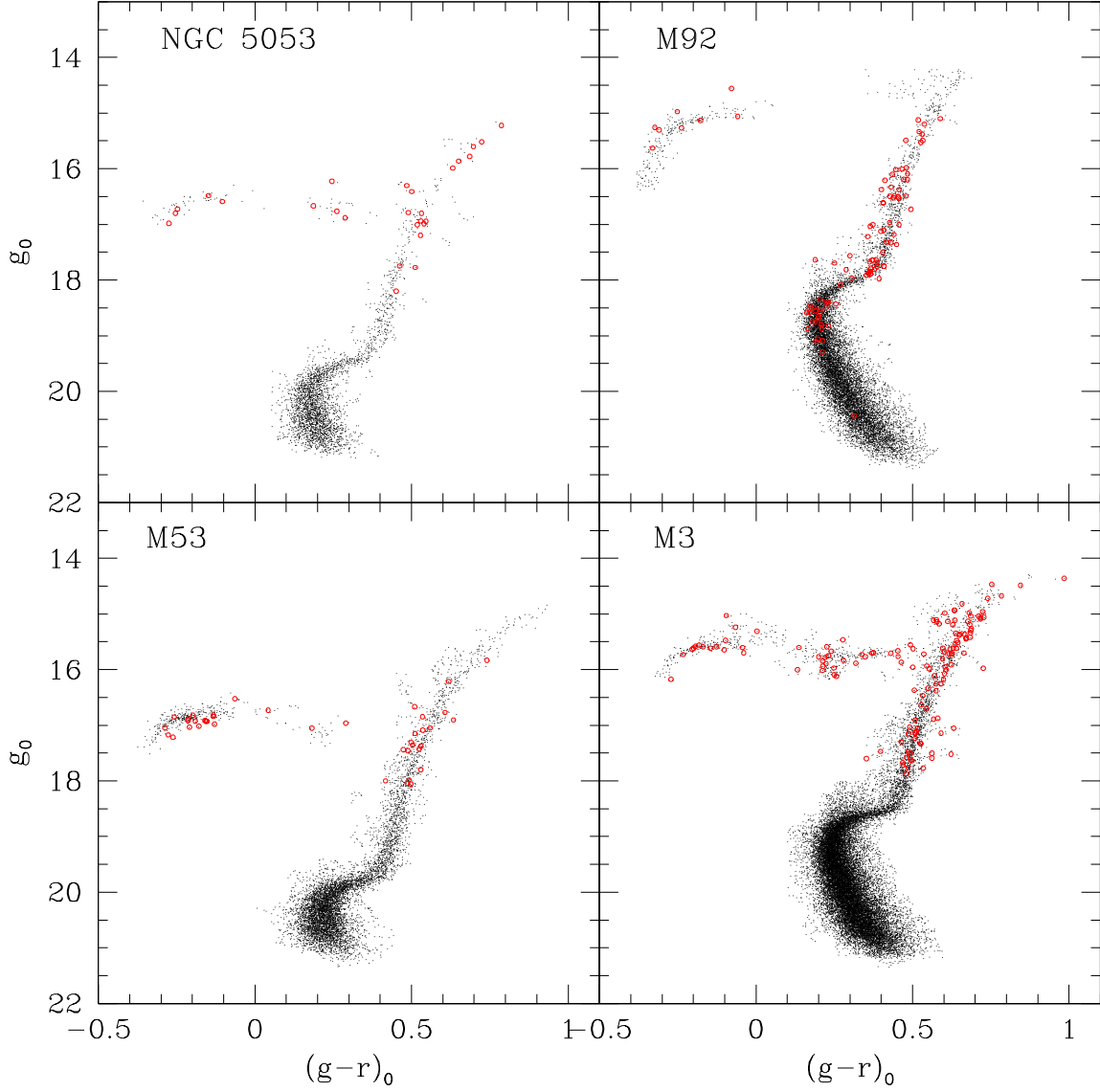


Fig. 6.— The Color-Magnitude Diagram following the second cut of likely member stars based on the sub-grid selection for NGC 5053 (upper-left panel), M92 (upper-right panel), M53 (lower-left panel), and M3 (lower-right panel). Black dots represent stars from the photometric sample, and the red open circles represent stars from the spectroscopic sample.

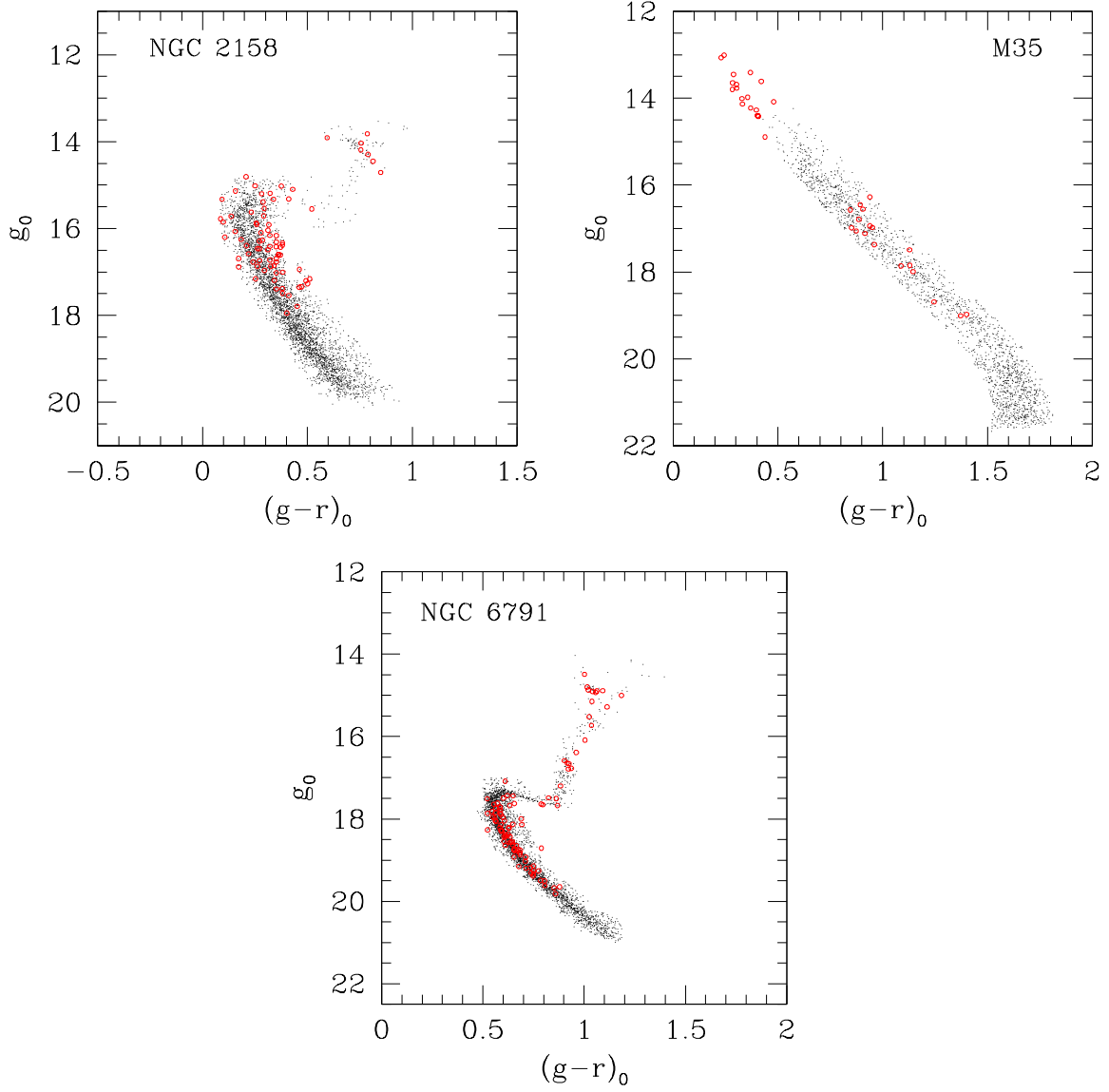


Fig. 7.— The Color-Magnitude Diagram following the second cut of likely member stars for NGC 2158 (upper-left panel), M35 (upper-right panel), and NGC 6791 (lower panel). Black dots represent stars from the photometric sample, and the red open circles represent stars from the spectroscopic sample.

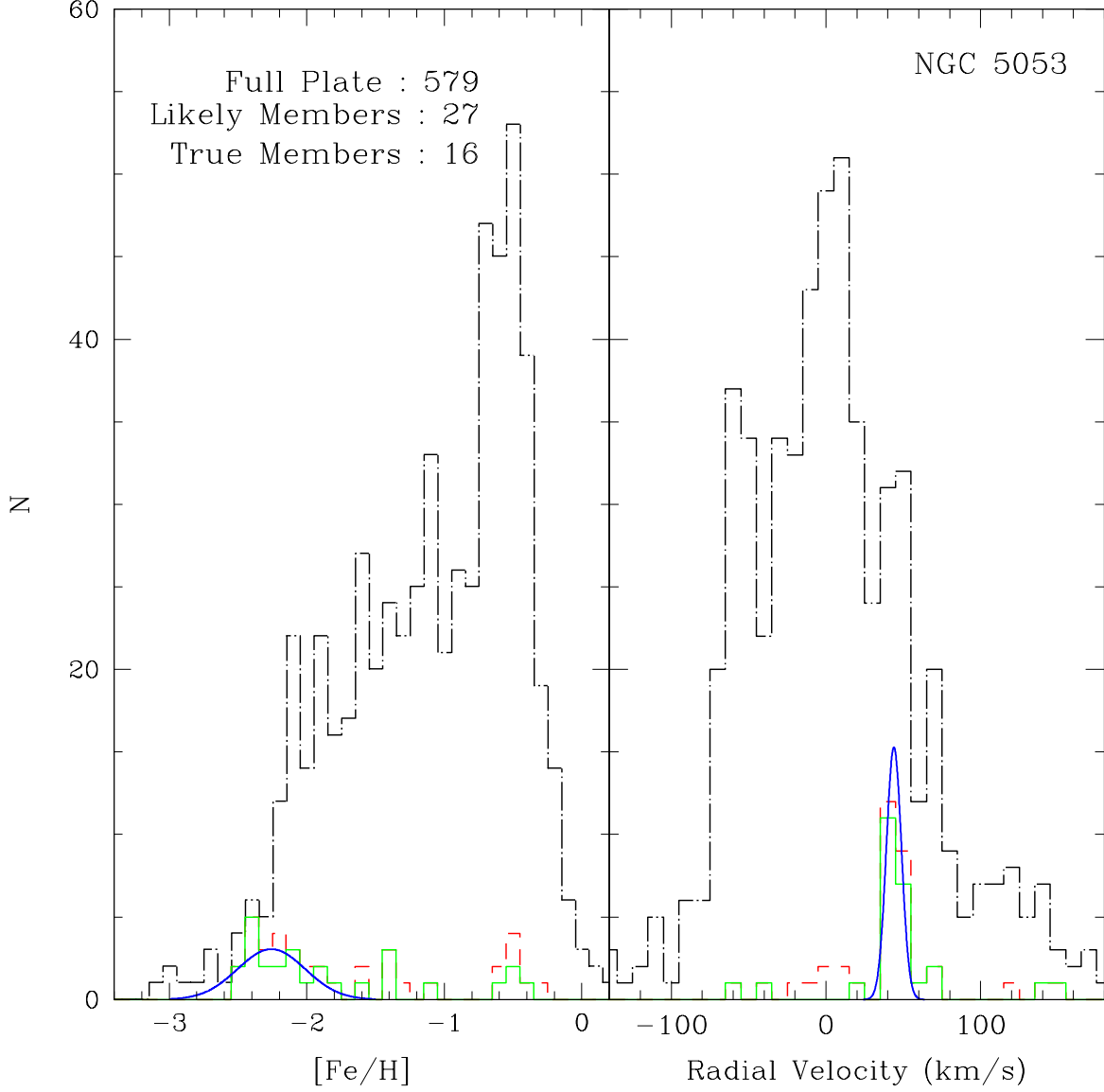


Fig. 8.— Distributions of $[\text{Fe}/\text{H}]$ and radial velocity for stars in the field of NGC 5053. The black dot-dashed line corresponds to all the stars on the plate, the red dashed line corresponds to the stars inside the tidal radius, and the green solid line corresponds to the stars that were identified as likely members by the sub-grid s/n procedure described in Section 3.1. The blue solid line is a Gaussian fit indicating the region of each distribution in which the true members are located, as described in Section 3.2.

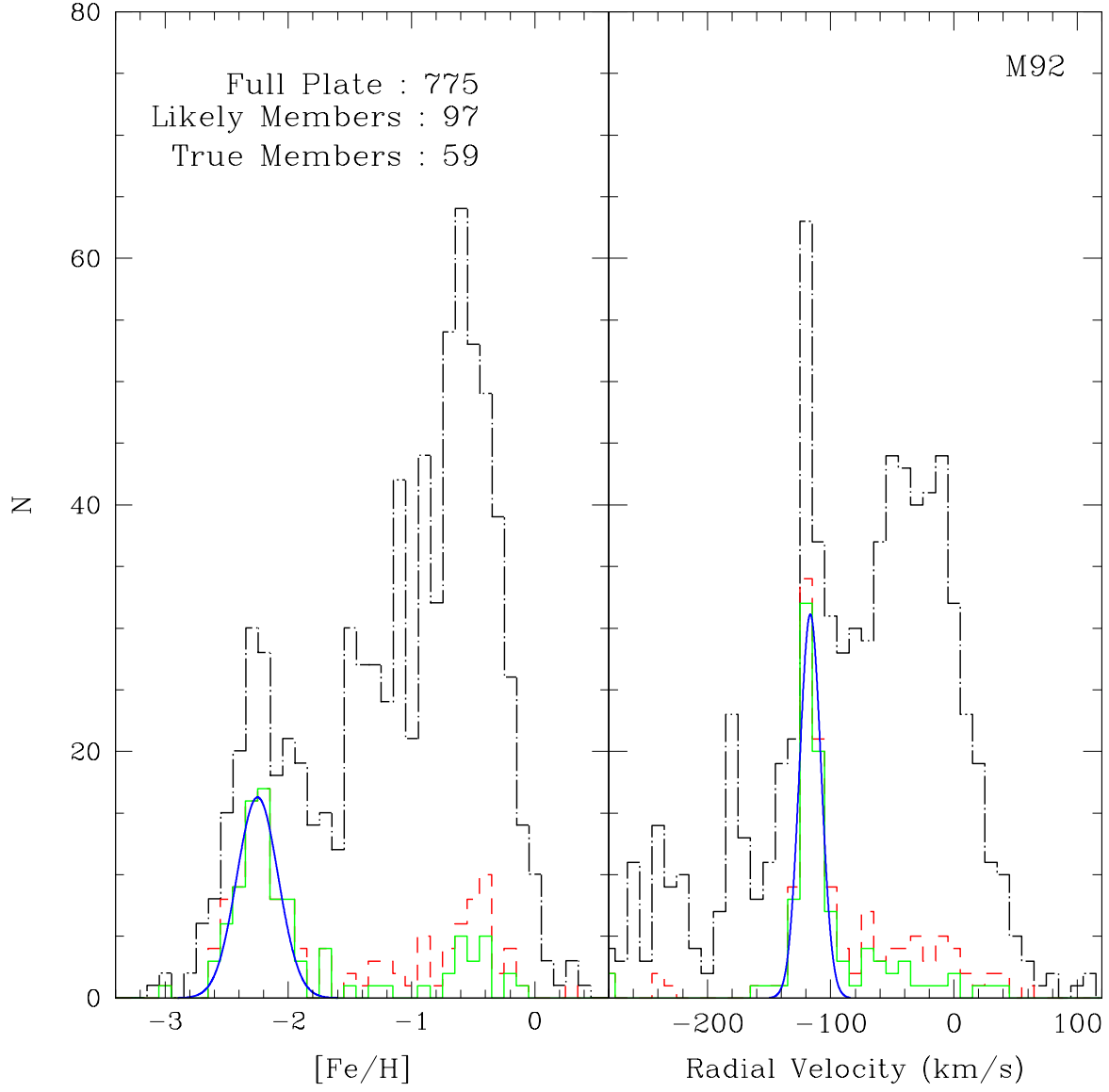


Fig. 9.— Same as Fig. 8, but for M92.

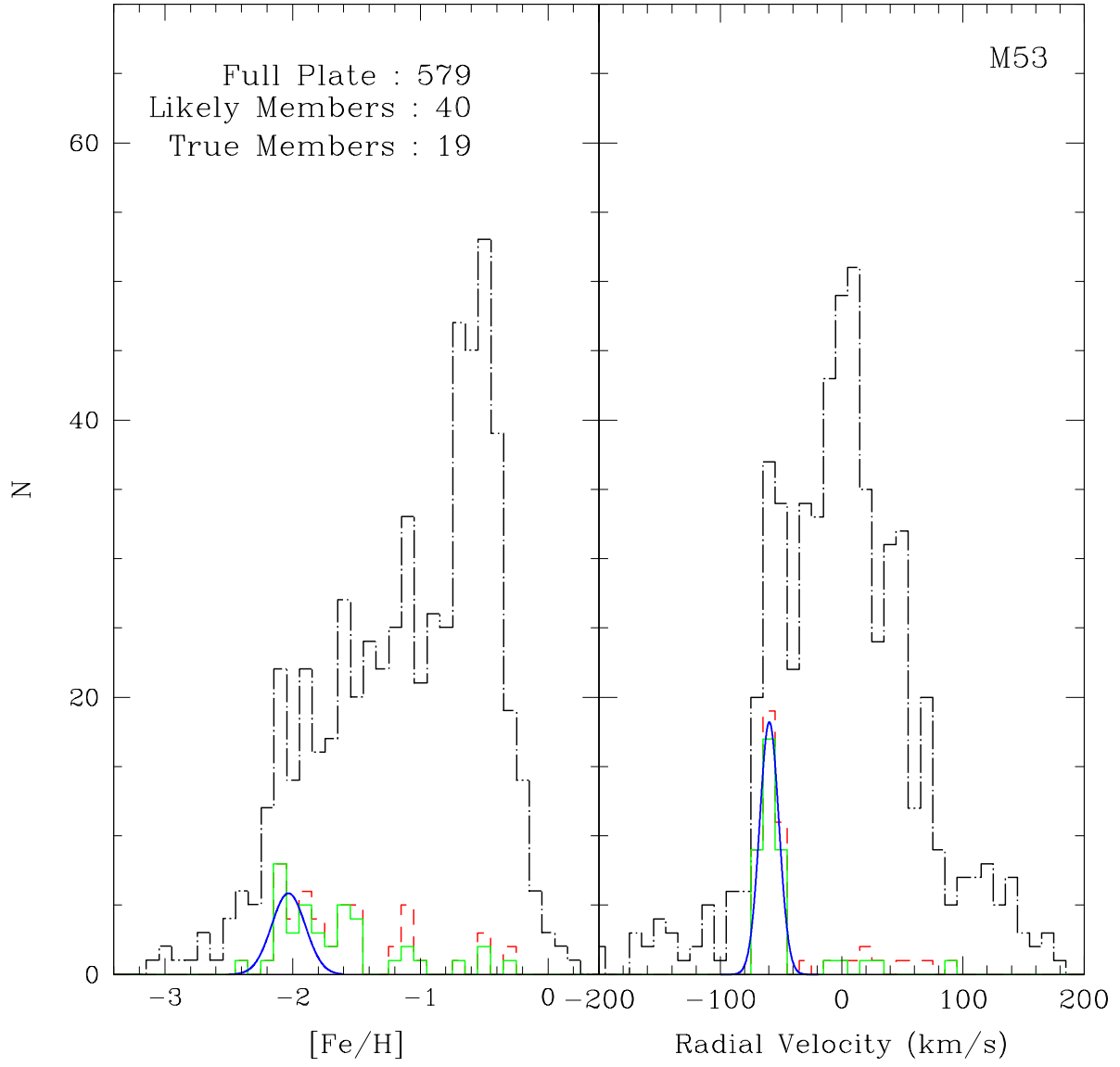


Fig. 10.— Same as Fig. 8, but for M53.

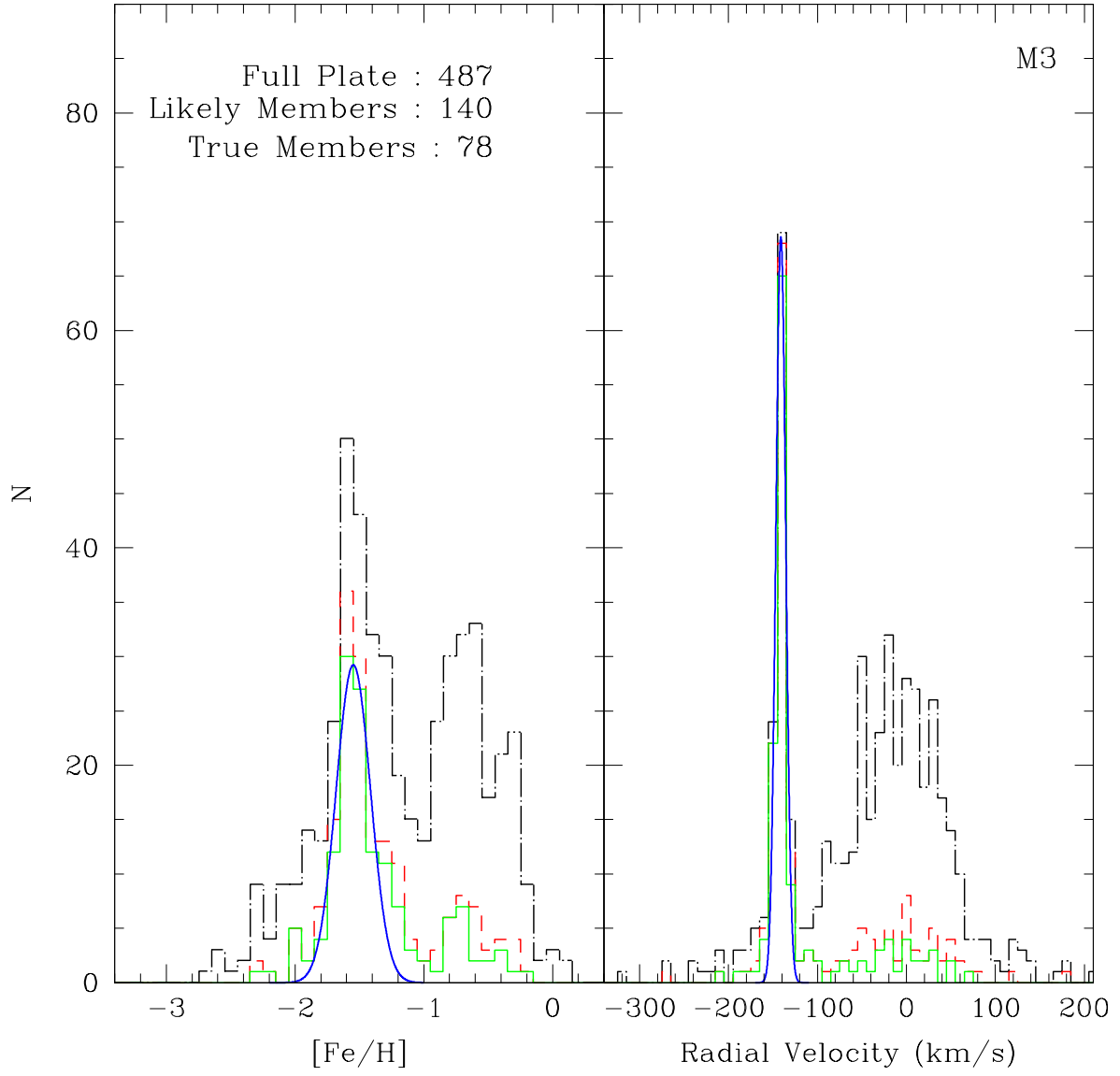


Fig. 11.— Same as Fig. 8, but for M3.

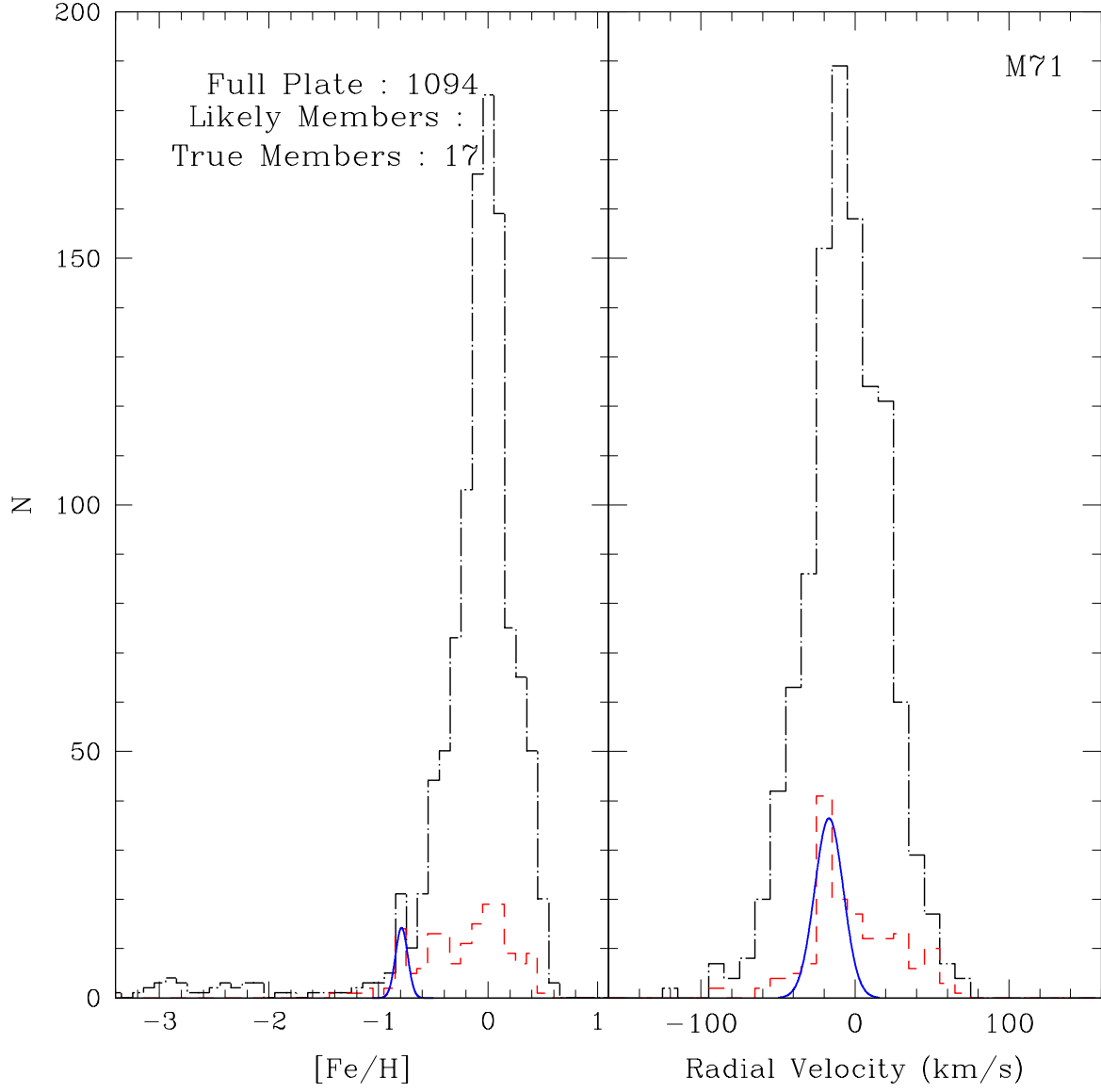


Fig. 12.— Same as Fig. 8, but for M71.

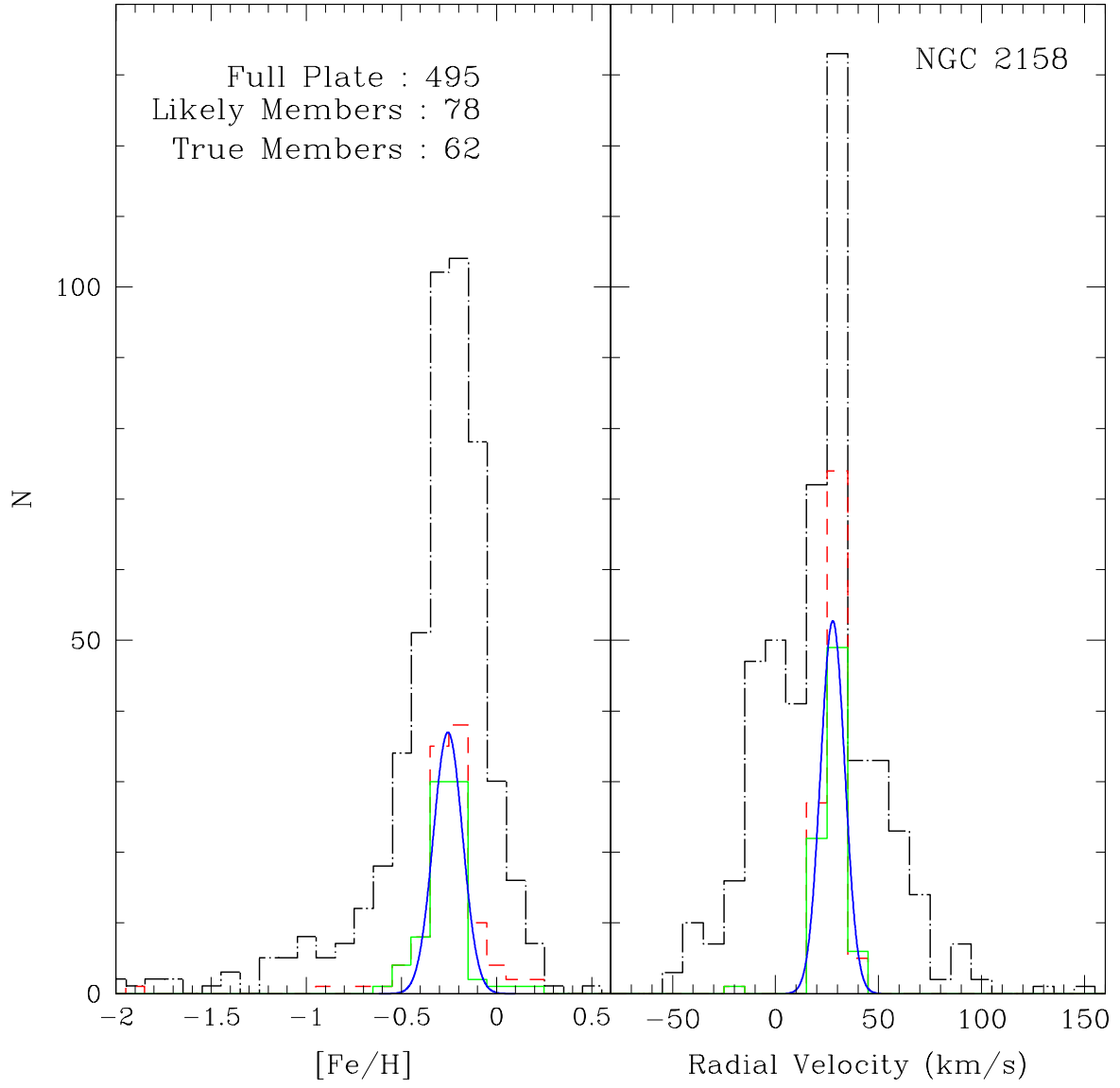


Fig. 13.— Same as Fig. 8, but for NGC 2158.

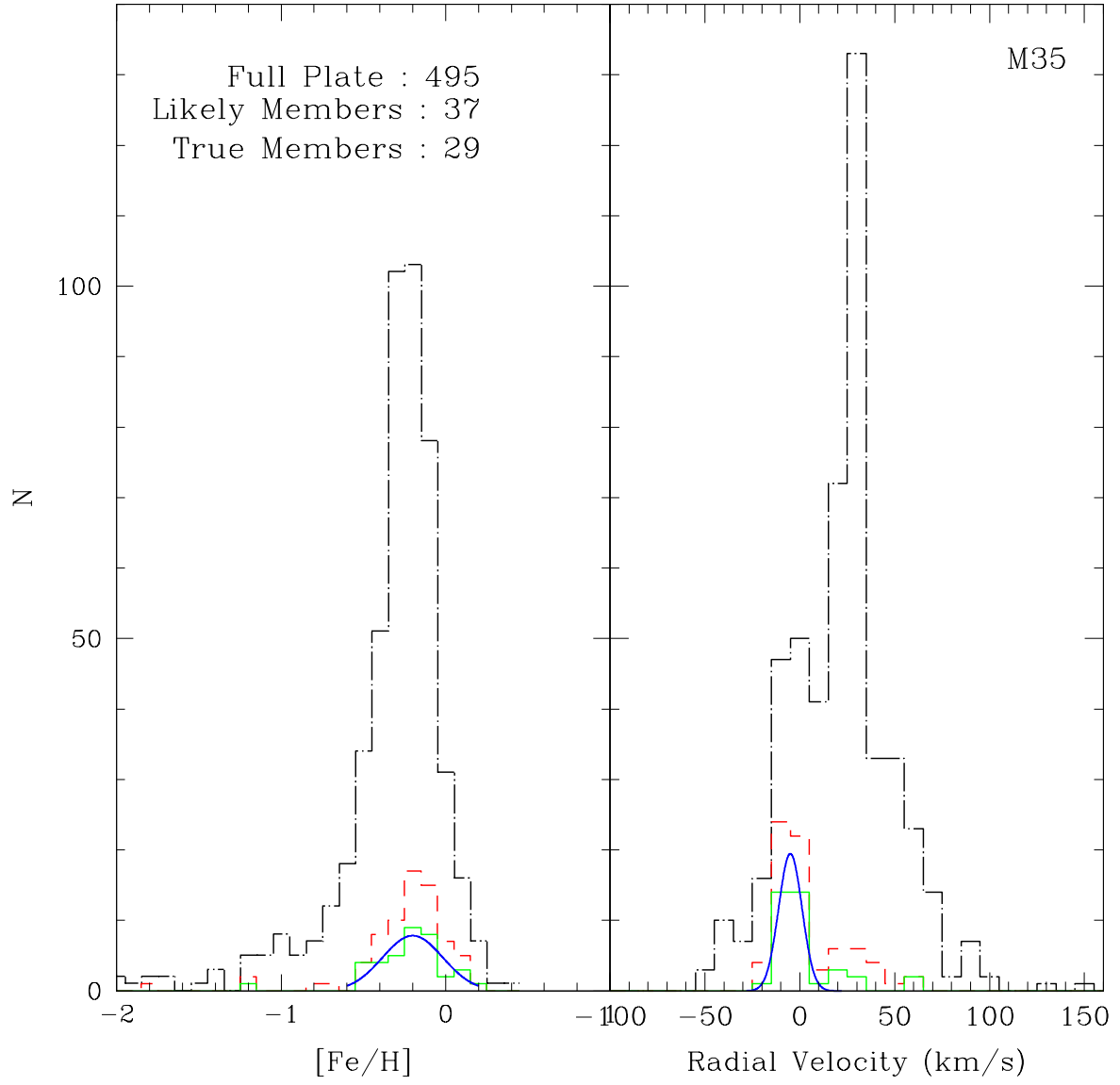


Fig. 14.— Same as Fig. 8, but for M35.

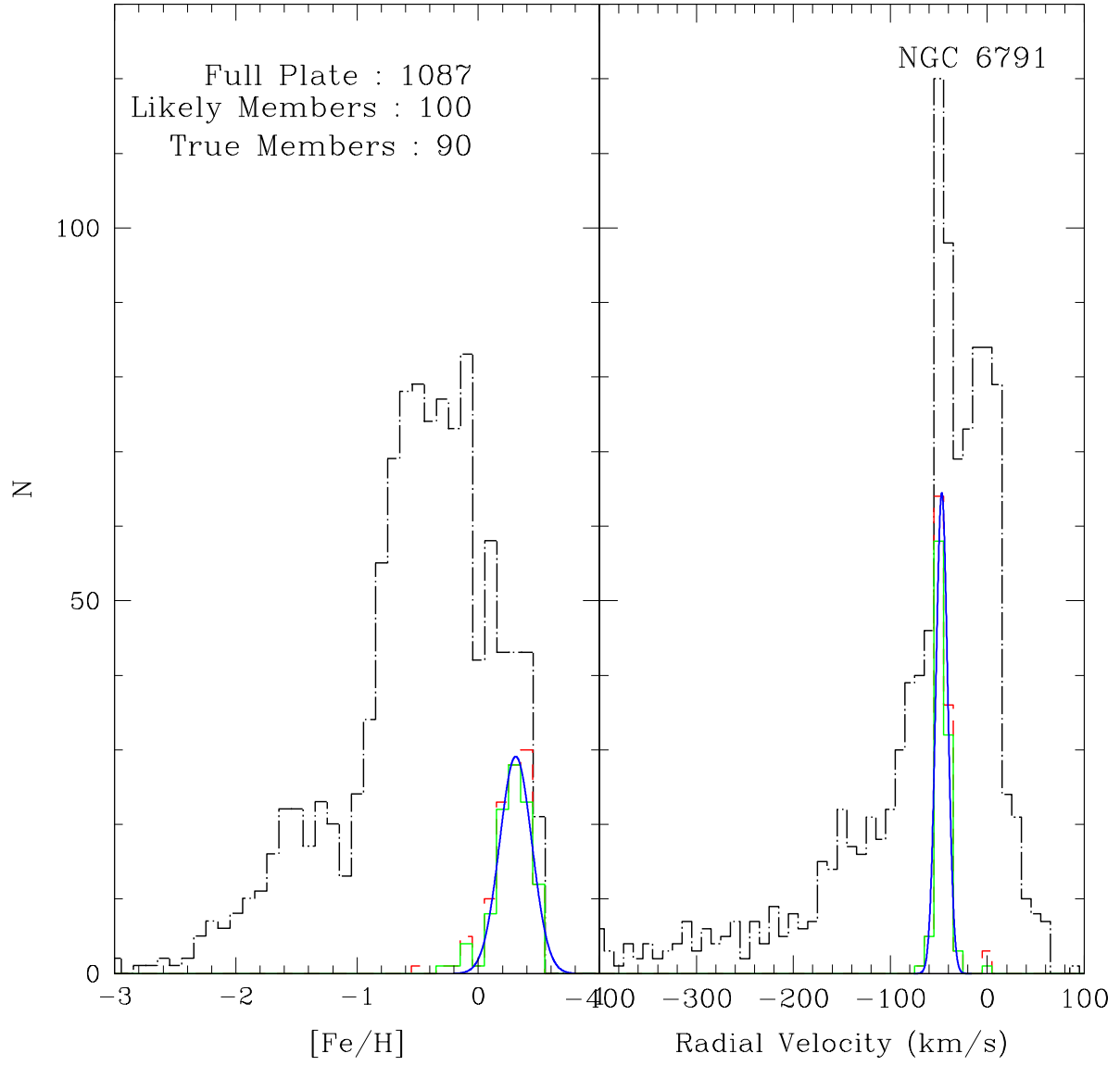


Fig. 15.— Same as Fig. 8, but for NGC 6791.

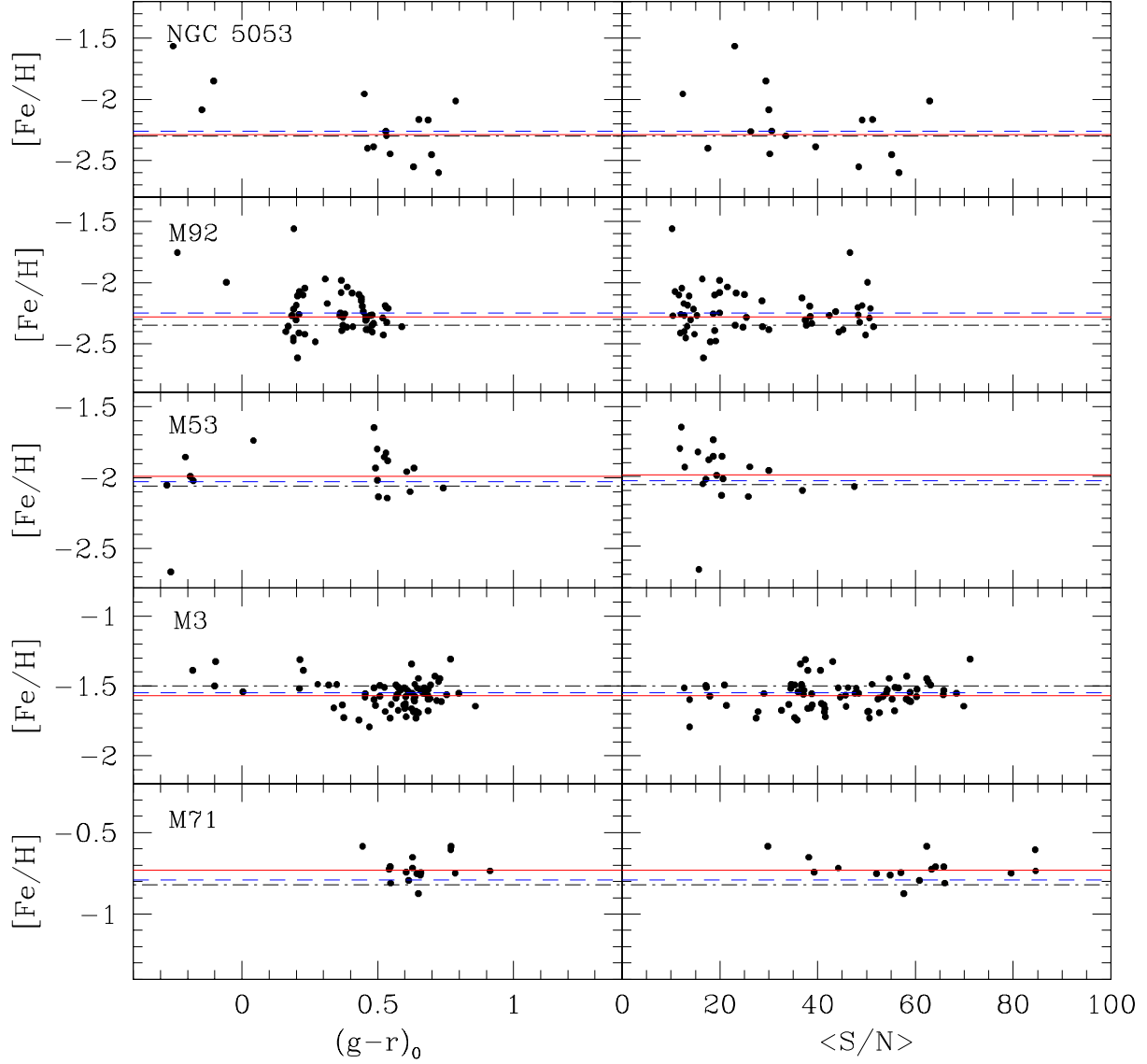


Fig. 16.— Distribution of $[\text{Fe}/\text{H}]$ as a function of $(g-r)_0$ (left-hand column) and average signal-to-noise (right-hand column) for selected true member stars of the globular clusters NGC 5053, M92, M53, M3, and M71, ordered from top to bottom on increasing metallicity. The red solid line in each panel represents the adopted value of $[\text{Fe}/\text{H}]$ for each cluster from the Harris (1996) catalog, the black dot-dashed line is $[\text{Fe}/\text{H}]$ from the Carretta et al. (2009) recalibration, and the dashed blue line represents the mean measured value of each cluster.

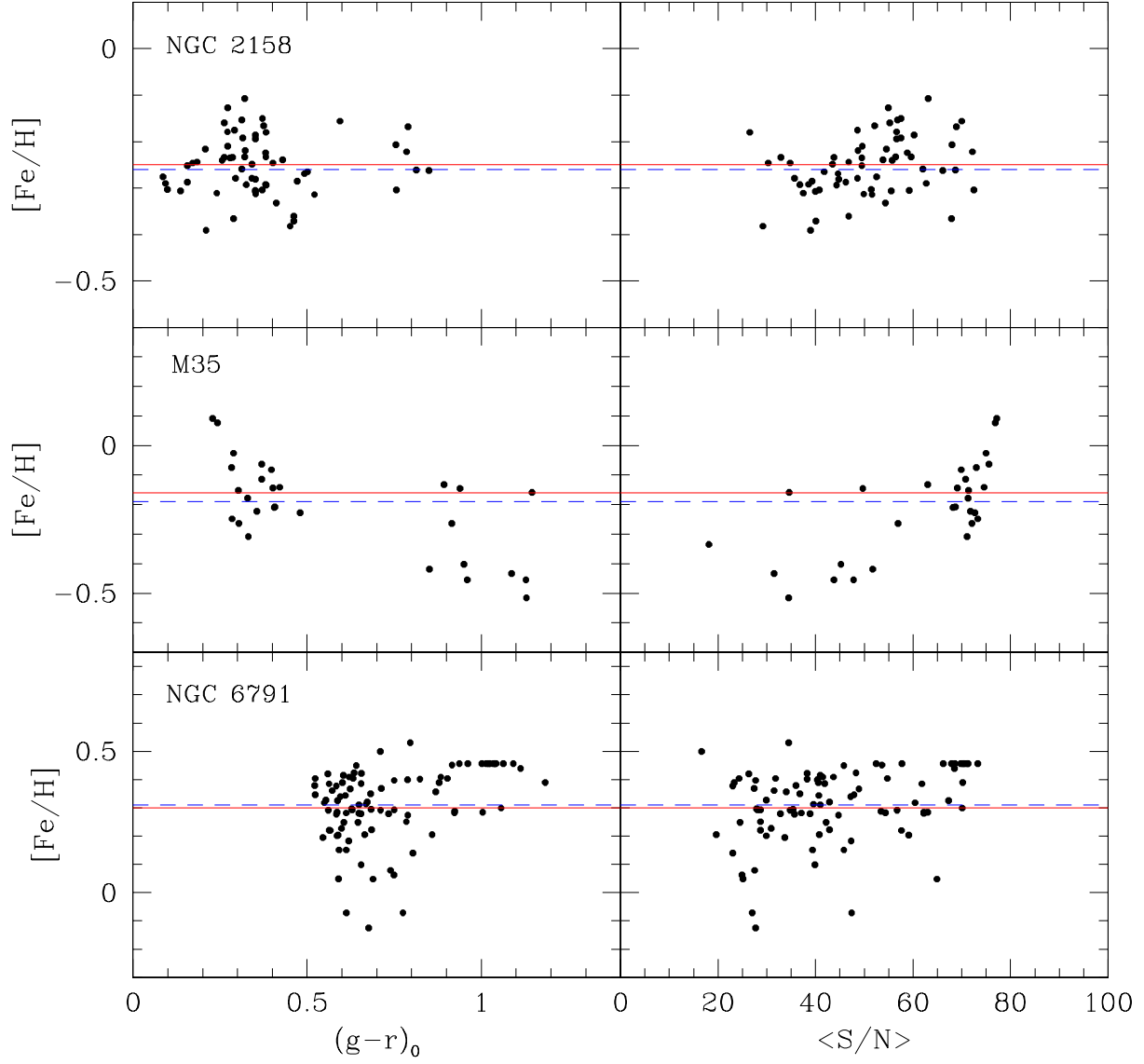


Fig. 17.— Same as Fig. 16, but for the open clusters NGC 2158, M35, and NGC 6791, ordered from top to bottom on increasing metallicity.

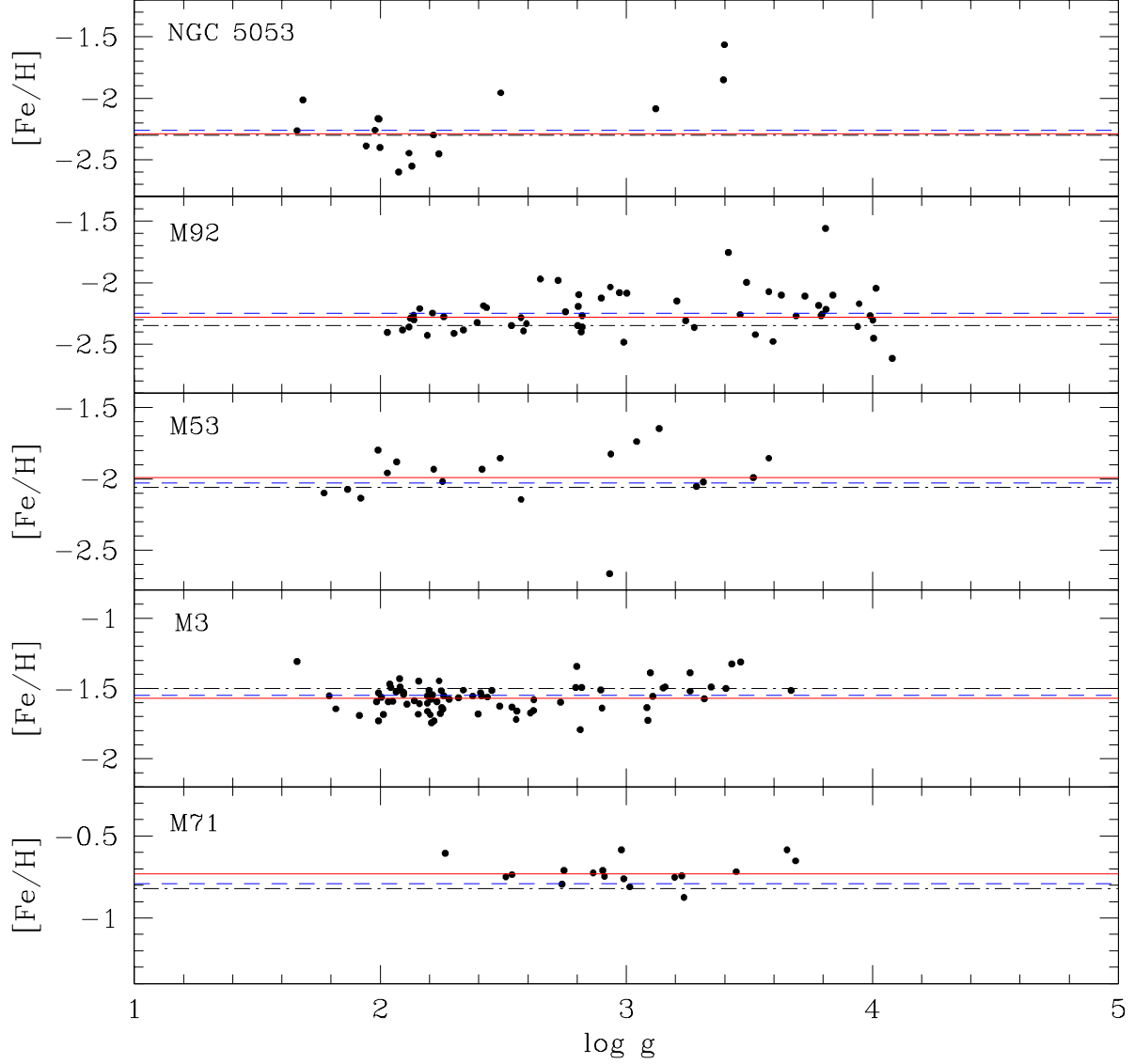


Fig. 18.— Distribution of $[\text{Fe}/\text{H}]$ as a function of estimated $\log g$ for the selected true member stars of the globular clusters NGC 5053, M92, M53, M3, and M71, ordered from top to bottom on increasing metallicity. As in Fig. 16, the red solid line corresponds to the adopted value for $[\text{Fe}/\text{H}]$ for each cluster from Harris (1996), the black dot-dashed is $[\text{Fe}/\text{H}]$ from the recalibrated metallicity scale of Carretta et al. (2009), and the dashed blue is the mean measured value.

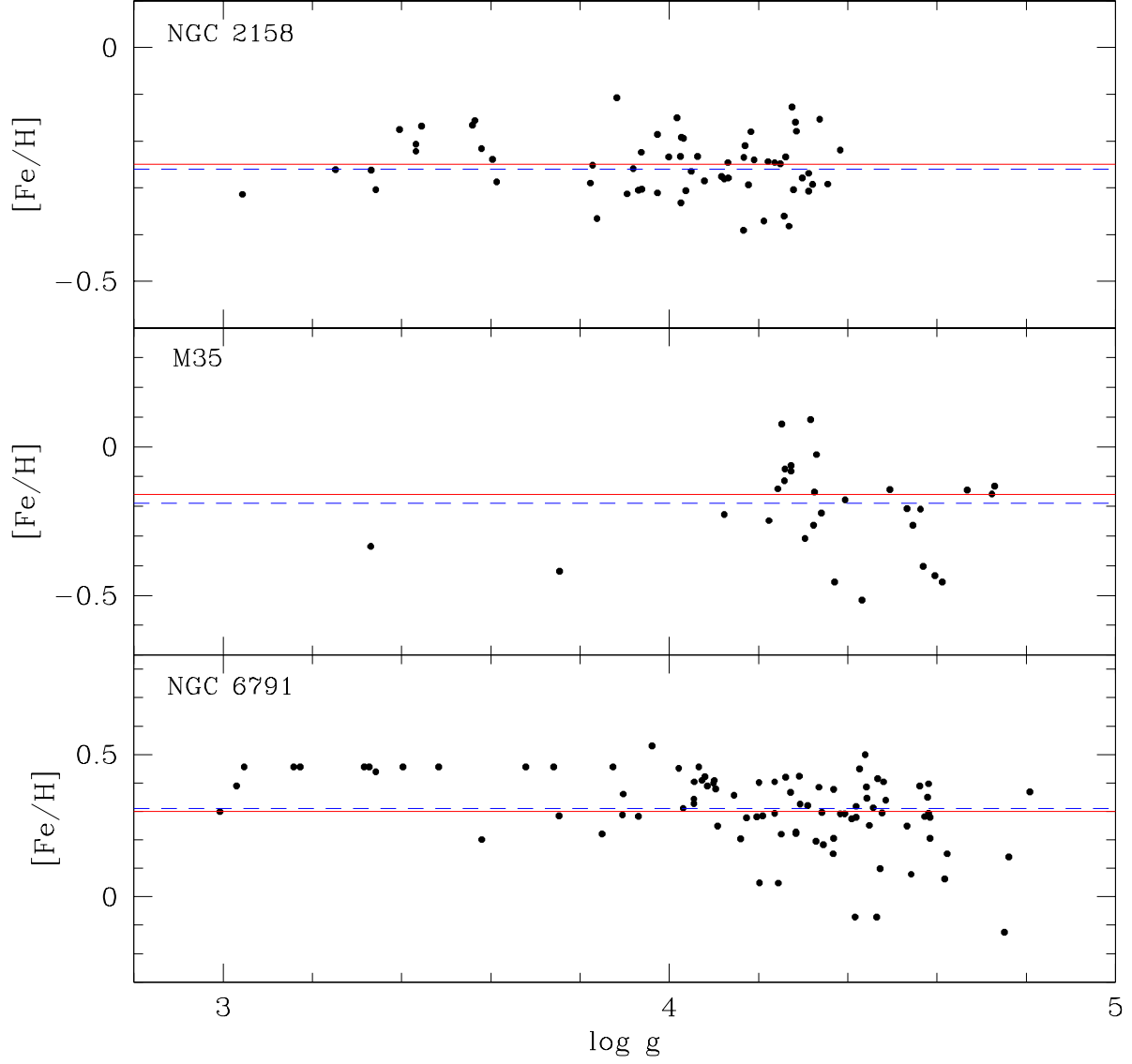


Fig. 19.— Distribution of $[\text{Fe}/\text{H}]$ as a function of estimated $\log g$ for the selected true member stars of the open clusters NGC 2158, M35, and NGC 6791, ordered from top to bottom on increasing metallicity. As in Fig. 16, the red solid line corresponds to the adopted literature value for $[\text{Fe}/\text{H}]$ for each cluster, while the dashed blue is the mean measured value.

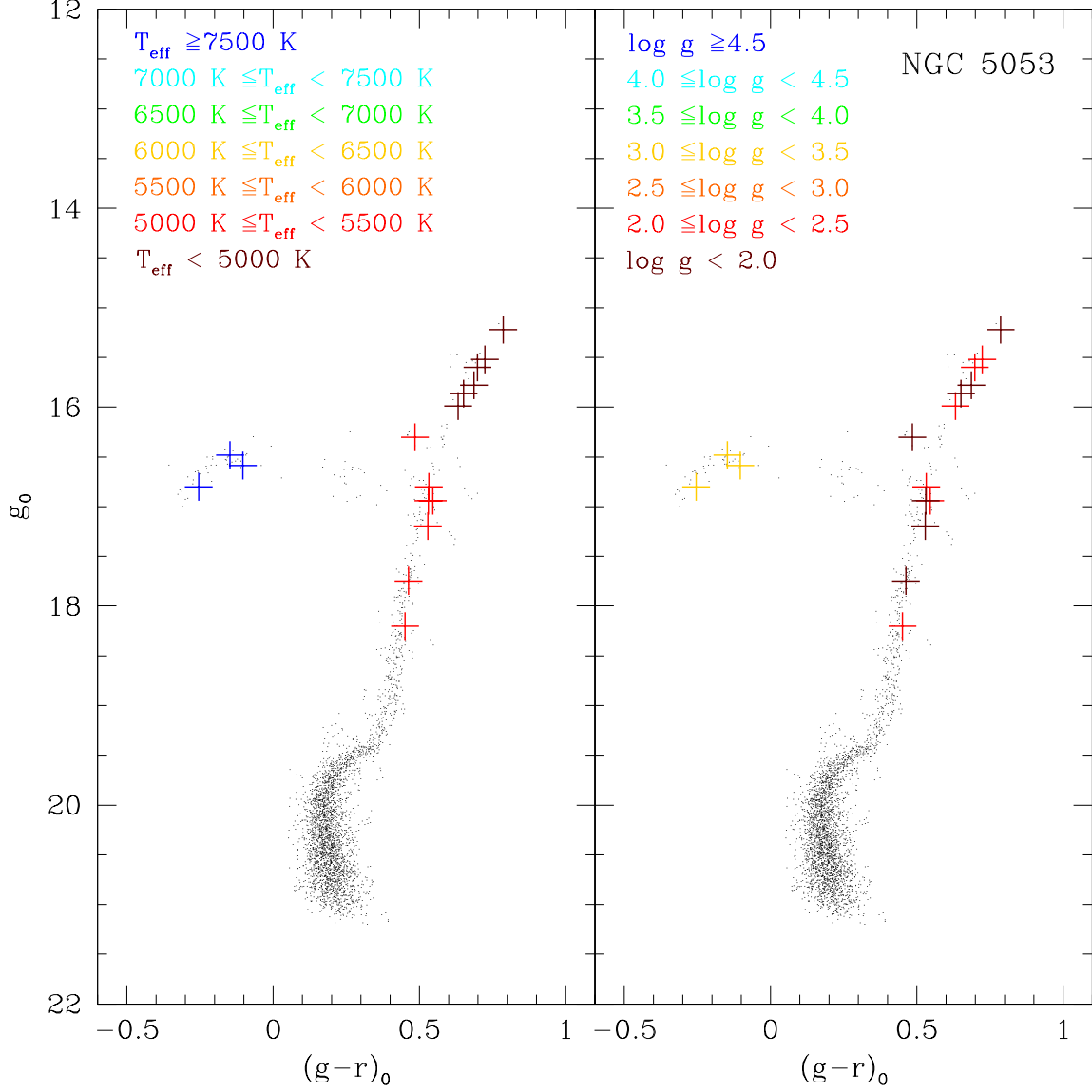


Fig. 20.— Color-Magnitude Diagram of the selected true member stars of NGC 5053. The left-hand panel shows the distribution of effective temperatures, while the right-hand panel shows the distribution of surface gravity, both based on the spectroscopic sample. The black dots are the likely member stars from the photometric sample. Each color represents a temperature step of width 500 K and a $\log g$ step of 0.5 dex, respectively.

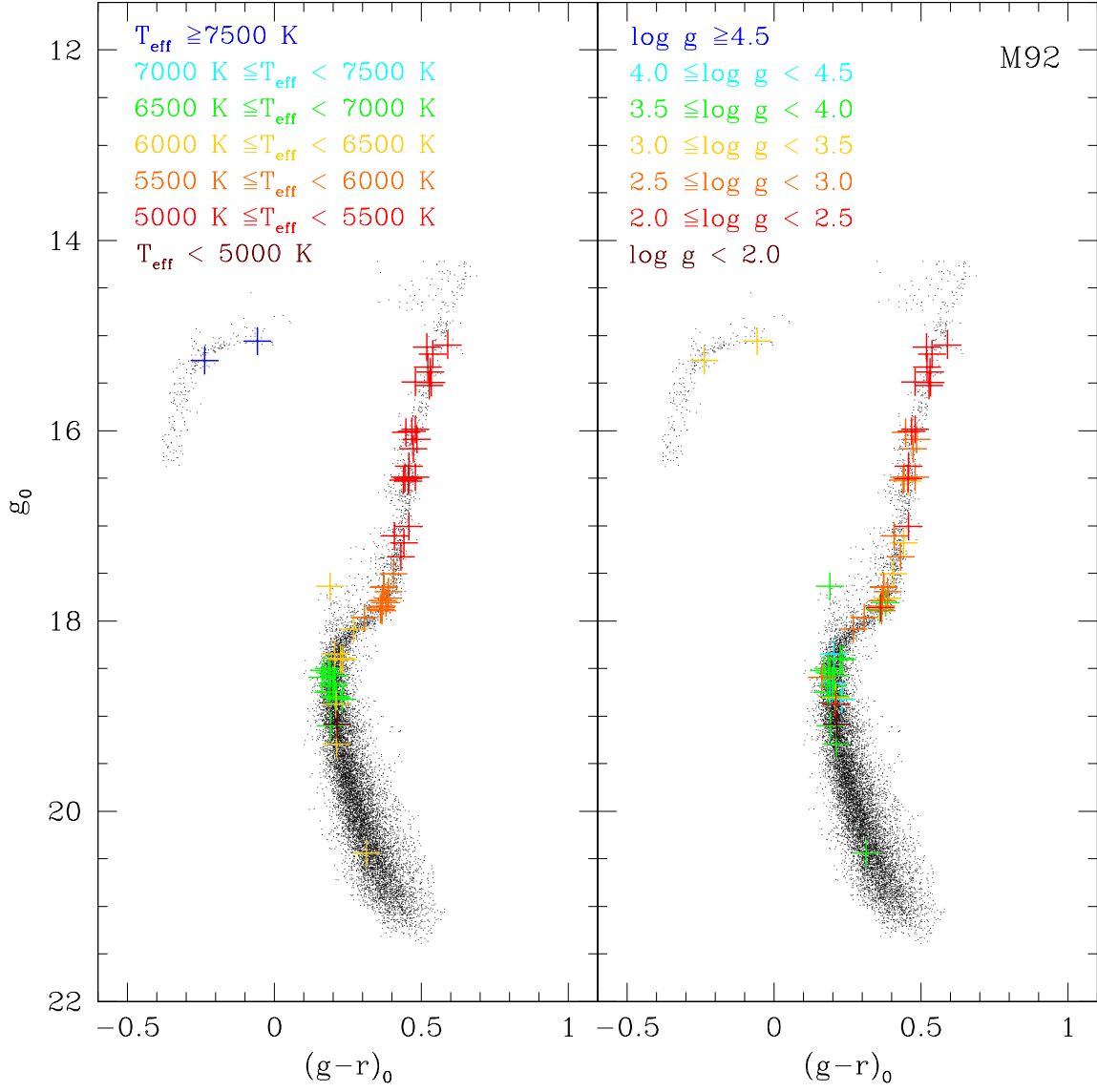


Fig. 21.— Same as Fig. 20, but for M92.

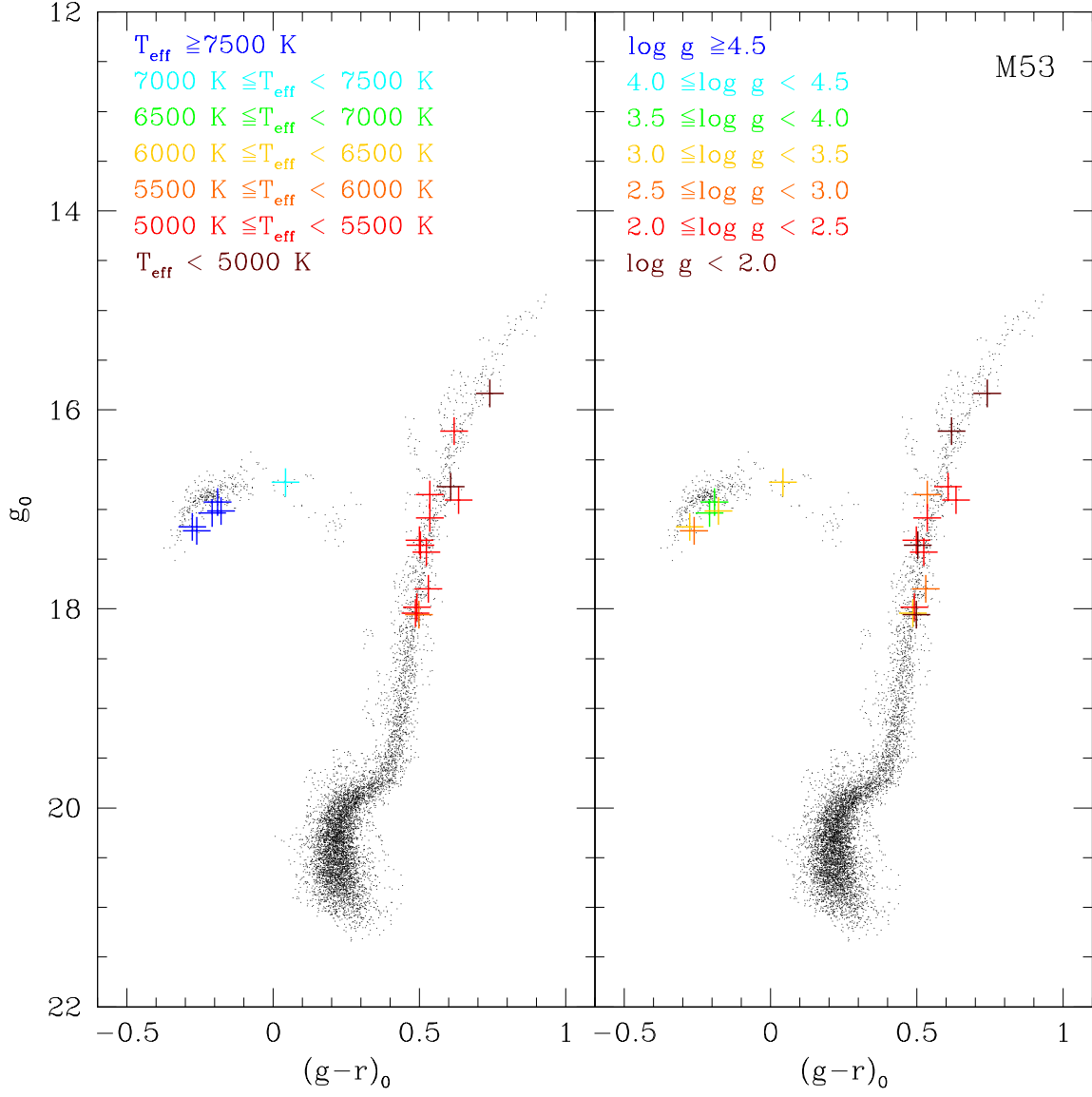


Fig. 22.— Same as Fig. 20, but for M53.

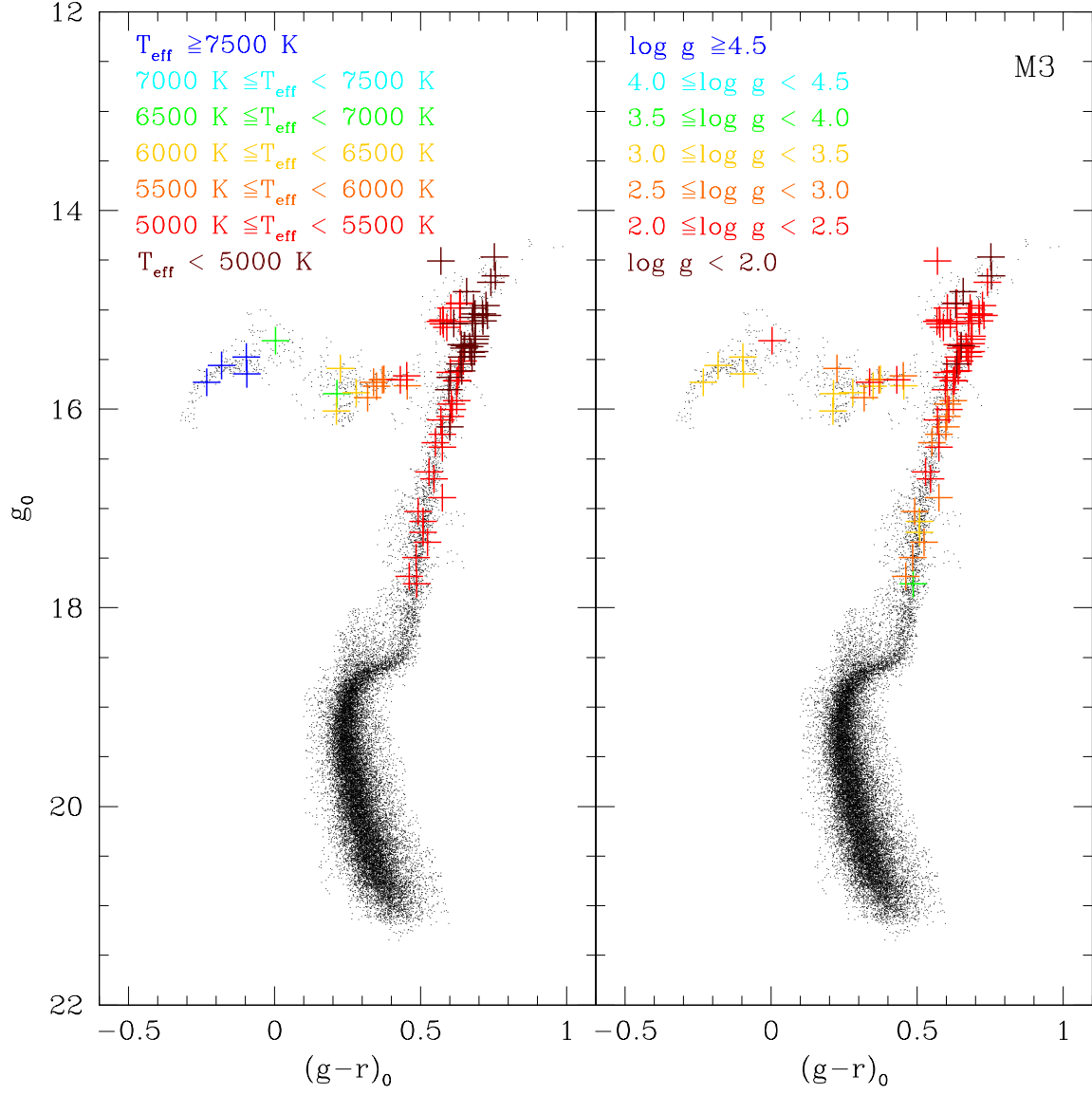


Fig. 23.— Same as Fig. 20, but for M3.

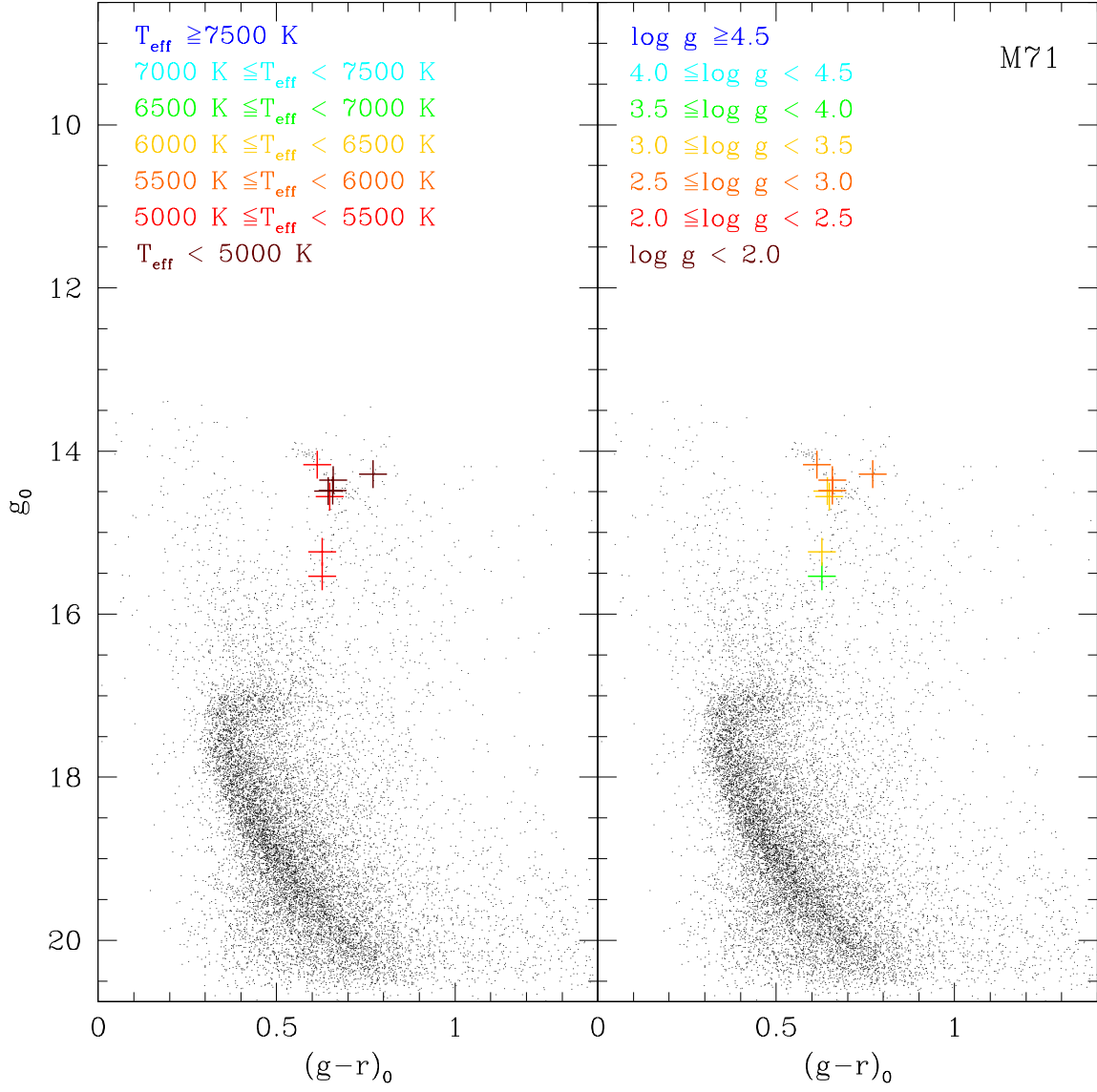


Fig. 24.— Same as Fig. 20, but for M71.

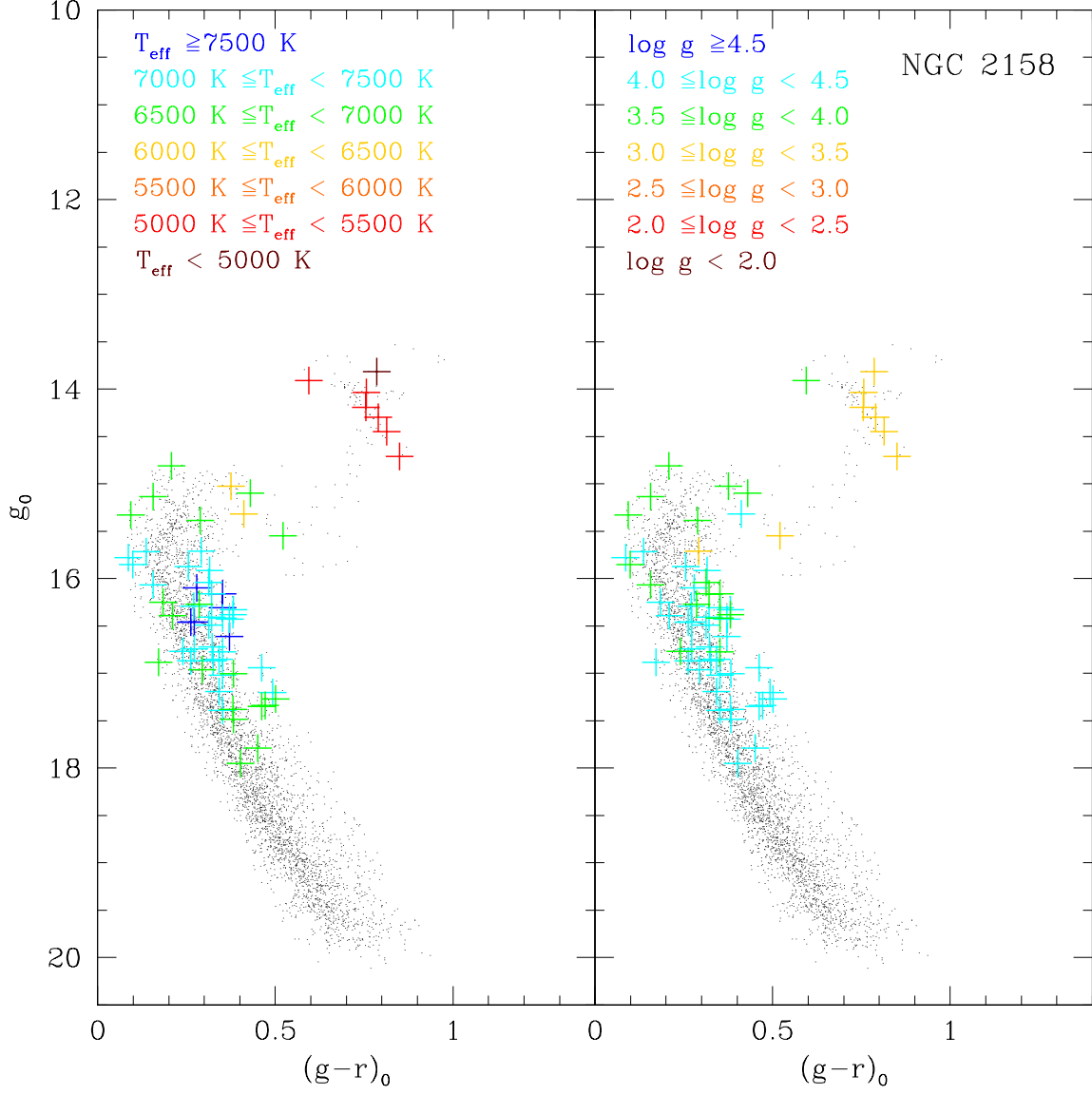


Fig. 25.— Same as Fig. 20, but for NGC 2158.

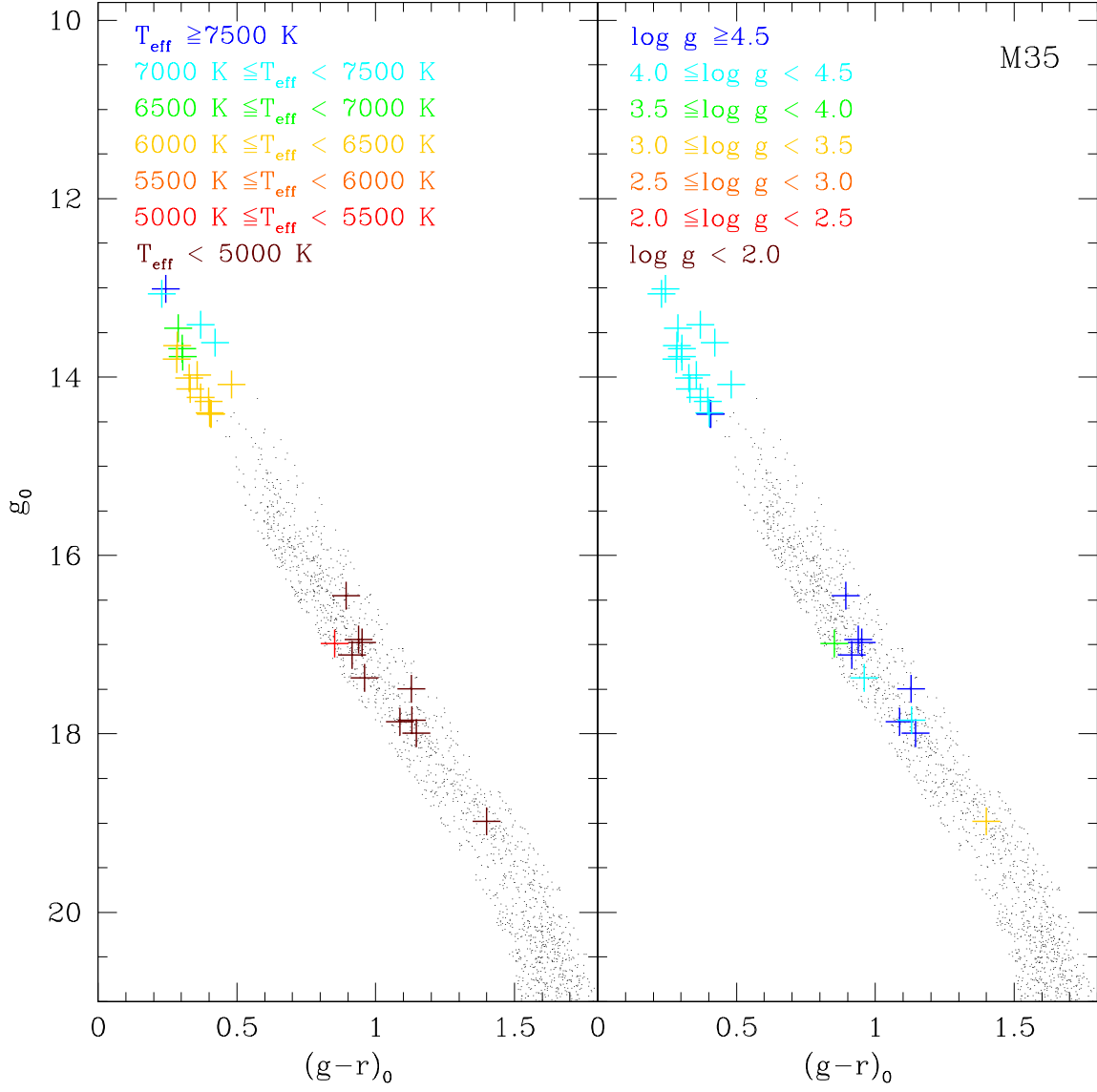


Fig. 26.— Same as Fig. 20, but for M35.

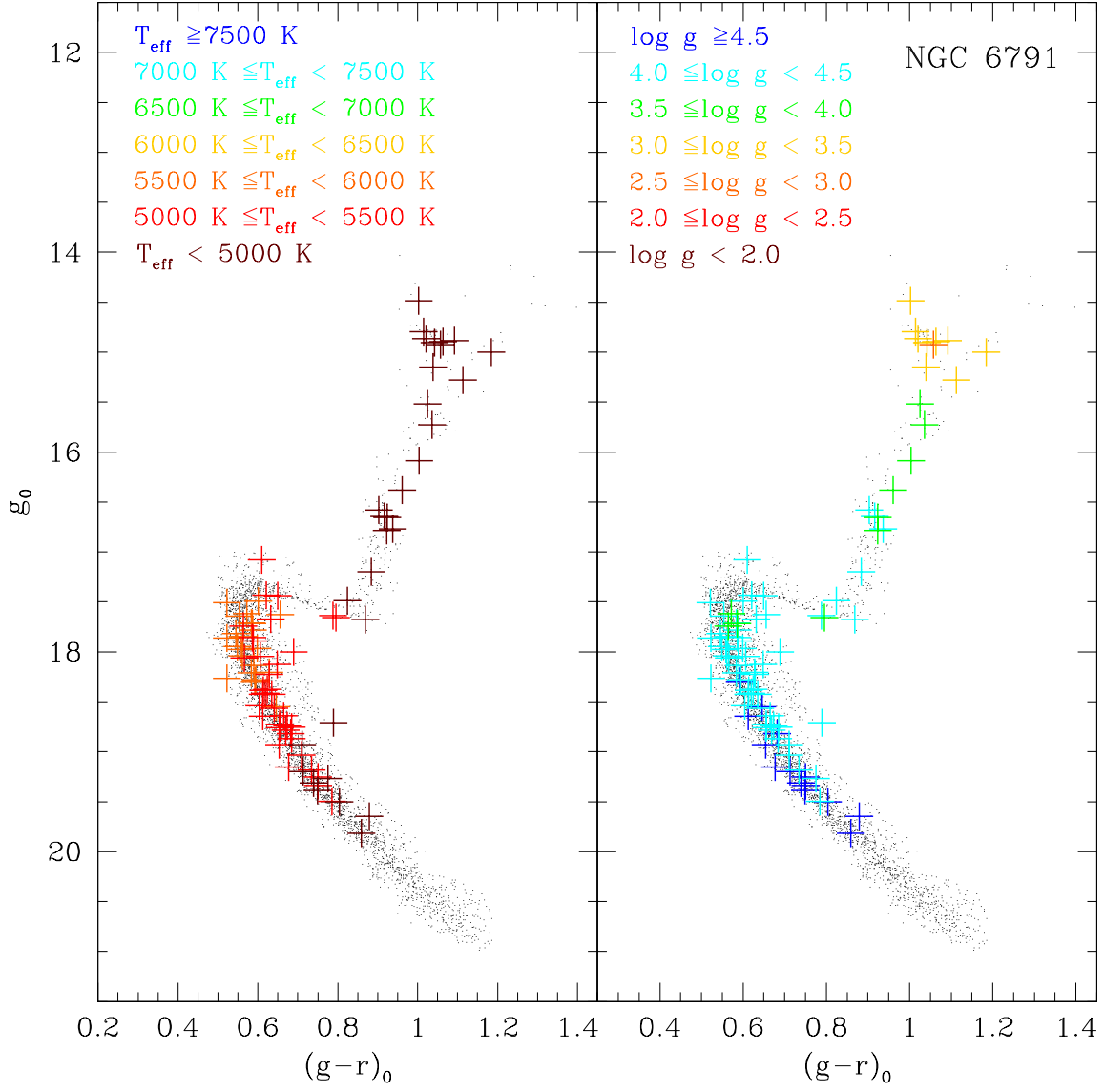


Fig. 27.— Same as Fig. 20, but for NGC 6791.

A. Appendix: Changes in SSPP-7 in Preparation for SSPP-8

In the period since SDSS Data Release 7 (DR7; Abazajian et al. 2009), the SEGUE Stellar Parameter Pipeline (SSPP; Paper I) has evolved somewhat, in order to improve our estimates of the stellar parameters T_{eff} , $\log g$, and $[\text{Fe}/\text{H}]$. In the version of the SSPP used for DR7, there were six primary temperature estimates and an auxiliary set of five empirically and theoretically determined estimates. For surface gravity estimation, ten methods were employed. Twelve different methods were employed to determine $[\text{Fe}/\text{H}]$. Depending on a star’s $(g - r)_0$ and the S/N of the spectrum, an indicator variable (taking on values of 0 or 1) was assigned for each technique used for a given parameter estimate. Following application of a parameter decision tree, all available estimates from individual methods for each parameter were combined to yield final adopted values. Details on each method and the decision tree for each parameter can be found in Paper I.

At the time the DR7 version of the SSPP was constructed there existed a dearth of metal-rich ($[\text{Fe}/\text{H}] > 0.0$) and metal-poor ($[\text{Fe}/\text{H}] < -3.0$) stars available as calibrators, hence the metallicity determinations at the extrema were not well-constrained. Since then, we have obtained data for more metal-poor and metal-rich clusters, including the important clusters M92 and NGC 6791, and also secured more SDSS/SEGUE stars with available high-resolution spectroscopy. These enabled substantial improvement in parameter estimates for SDSS/SEGUE stellar spectra.

Here we highlight major and minor changes that have been made on the SSPP since the DR7 version; the new version of the SSPP is referred to as SSPP-P8, as a version similar to this will be used for application to Data Release 8 (DR8), scheduled for January 2011. The version of the SSPP used for DR7 is referred to as SSPP-7. Here, *major change* indicates that the modification described directly affects the parameter estimation for each method, and hence the final adopted value, whereas *minor change* indicates that the modification doesn’t influence parameter estimation, but helps to more easily identify peculiar behavior in the observed spectra, or possibly the presence of ill-measured parameters.

A.1. Major Changes in the SSPP

Since there are no substantial changes in the methodology for estimating T_{eff} and $\log g$, or in the averaging scheme employed to obtain final adopted values, we focus on modifications made to obtain improved metallicity estimates. However, note that the final adopted value of T_{eff} and $\log g$ estimates are slightly different in SSPP-P8, due to the re-calibration of the NGS1 and NGS2 approaches, and to some additional changes in the validity ranges of S/N

and $(g - r)_0$. The basic ideas for deciding which estimator goes in the final averaging stage for those two parameters and the nomenclature for each method can be found in Paper I.

A.1.1. Changes in S/N and $(g - r)_0$ Ranges for Individual Methods

The valid ranges of S/N and $(g - r)_0$ for each method mostly remain the same as before, but the color range for application of the **WBG** method is substantially narrowed, since it is based on a grid of synthetic spectra that only extends to $[\text{Fe}/\text{H}] = 0.0$, thus it is not applicable for the full range of expected metallicities for metal-rich G- and K-type stars. In SSPP-7, its use lowered the overall metallicity estimates for stars with super-solar metallicity ($[\text{Fe}/\text{H}] > 0.0$). Table A1 summarizes the current status of the S/N and $(g - r)_0$ ranges for individual methods.

*A.1.2. Re-Calibration of the **NGS1** and **NGS2** Methods*

The **NGS2** method implements a dense and extended grid of synthetic spectra, spanning from $4000 \text{ K} \leq T_{\text{eff}} \leq 8000 \text{ K}$ in steps of 250 K, $0.0 \leq \log g \leq 5.0$ in steps of 0.2 dex, and $-4.0 \leq [\text{Fe}/\text{H}] \leq +0.4$ in steps of 0.2 dex. The $[\alpha/\text{Fe}]$ ratio covers from $-0.1 \leq [\alpha/\text{Fe}] \leq +0.6$ at each node of T_{eff} , $\log g$, and $[\text{Fe}/\text{H}]$. Details on the models used to generate the synthetic spectra are described in Paper I.

A linear flux interpolation routine has been added to the **NGS1** approach in order to generate synthetic spectra in finer steps of 125 K, 0.125 dex, and 0.1 dex for T_{eff} , $\log g$, and $[\text{Fe}/\text{H}]$, respectively, using the existing **NGS1** grid, before χ^2 minimization calculations are carried out. This provides a tighter parameter search space for the χ^2 minimization scheme for the **NGS1** technique than previously.

Following these adjustments, metallicity estimation of the **NGS1** and **NGS2** methods is re-calibrated using likely member stars of globular (M92, M15, M13, and M2) and open clusters (NGC 2420, M67, and NGC 6791), by fitting a simple linear function of $[\text{Fe}/\text{H}]$ to the residuals between recent literature values and the metallicity estimates from the **NGS1** and **NGS2** methods, after adding a metal-poor globular cluster (M92) and a super solar metal-rich open cluster (NGC 6791), which were not available at the time of the SSPP-7 calibration. The calibration procedure adopts the following metallicities: M92 ($[\text{Fe}/\text{H}] = -2.35$), M15 ($[\text{Fe}/\text{H}] = -2.33$), M13 ($[\text{Fe}/\text{H}] = -1.58$), and M2 ($[\text{Fe}/\text{H}] = -1.66$) from Table A1 in Carretta et al. (2009), NGC 2420 ($[\text{Fe}/\text{H}] = -0.37$) from Anthony-Twarog, et al. (2006), M67 ($[\text{Fe}/\text{H}] = +0.05$) from Randich et al. (2006), and NGC 6791 ($[\text{Fe}/\text{H}] = +0.30$) from

Boesgaard et al. (2009). After re-calibration, we have obtained the following correction functions of the metallicity scale compared to the un-calibrated values:

$$[\text{Fe}/\text{H}]_{\text{NGS1}} = [\text{Fe}/\text{H}] + 0.178 \cdot [\text{Fe}/\text{H}] + 0.406, \quad (\text{A1})$$

$$[\text{Fe}/\text{H}]_{\text{NGS2}} = [\text{Fe}/\text{H}] + 0.212 \cdot [\text{Fe}/\text{H}] + 0.417. \quad (\text{A2})$$

Along with the extended grid for the **NGS2**, this re-calibration has improved the final adopted metallicity in SSPP-P8 at both the low-metallicity (< -3.0) and high-metallicity (> 0.0) extrema.

A.1.3. A New Decision Tree for $[\text{Fe}/\text{H}]$ Estimates

Although the basic idea of averaging the various metallicity estimates follows the decision tree implemented in SSPP-7, we have added to the averaging scheme a few more criteria to reject likely outliers.

There are 12 estimates of $[\text{Fe}/\text{H}]$ in the SSPP-P8, as was also the case for the SSPP-7. We adopt the validity ranges of S/N and $(g - r)_0$ listed in Table A1 to assign 1 or 0 as an indicator variable for each method. We then proceed as follows. First, we generate a synthetic spectrum for each estimate of $[\text{Fe}/\text{H}]$ that has an indicator variable of 1 (using the adopted T_{eff} and $\log g$) by interpolating within the pre-existing grid of synthetic spectra from the **NGS1** approach. Next, we calculate a correlation coefficient (**CC**) and the mean of the absolute residuals (**MAR**) between the observed and the generated synthetic spectrum in two different wavelength regions: 3850–4250 Å and 4500–5500 Å, where the Ca II K and H lines, as well as numerous metallic lines, are present, yielding two values of **CC** and **MAR** for each metallicity estimator. We then select between the two values by choosing the one with **CC** closest to unity, and with **MAR** closest to zero. This applies for all estimates of $[\text{Fe}/\text{H}]$ from the individual methods. At the end of this process, we have N values of the **CC** and **MAR** (maximum of $N = 12$) for the N estimates of $[\text{Fe}/\text{H}]$ with indicator variables of 1. There are thus two arrays with N elements: one from the **CC** and the other one from the **MAR** values.

We then sort the **CC** array in descending order, and select the metallicity estimate corresponding to the first and second element of the sorted array. The same procedure is carried out for the **MAR** array, after sorting in ascending order. The reason for implementing calculations involving the **MARs** is that, although we may have a correlation coefficient close to unity between the observed and the synthetic spectrum, from time to time there are large residuals between the two spectra, indicating a poor match. Thus, the computations

involving the **MAR** provide additional security that the methods are producing reasonable abundance estimates at this stage.

At this point we have two metallicity estimates with the highest **CCs**, and two metallicity estimates with the lowest **MARs**. We then take an average of the four metallicities, and use this average to select from among the full set of metallicity estimates with an indicator variable of 1 and within ± 0.5 dex of the average. We carry along the **CCs** and **MARs** for the selected metallicity estimates for further processing.

In the next step we obtain an average μ_{CC} (μ_{MAR}) and standard deviation σ_{CC} (σ_{MAR}) of the **CCs** (**MARs**) for the surviving metallicity estimates from the previous step. As a final step to reject likely outliers, we select from the surviving metallicity estimates the ones with the **CC** greater than $(\mu_{\text{CC}} - \sigma_{\text{CC}})$ and the **MAR** less than $(\mu_{\text{MAR}} + \sigma_{\text{MAR}})$. The metallicity estimators that remain after this step are assigned indicator variables of 2. This procedure effectively ignores metallicity estimates that produce poor matches with the synthetic spectra. The final adopted value of $[\text{Fe}/\text{H}]$ is computed by taking a biweight average of the remaining values of $[\text{Fe}/\text{H}]$ (those with indicator variables of 2).

Figure A1 shows comparisons of metallicity estimates from individual methods with those from the high-resolution spectroscopic analysis, and confirms how well the new outlier rejection algorithm works. When inspecting such plots, it is well to keep in mind that one can assume that the high-resolution predictions of metallicity carry *at least* an internal error on the order of 0.1 dex, and (since they were not obtained from a uniform analysis), a user-to-user error that may be of similar magnitude when various samples are combined as we have done.

A.2. Minor Changes in the SSPP

Although the minor additions (or subtractions) to the SSPP do not alter the parameter estimations, they greatly assist the user interested in being made aware of peculiarities in the spectra or poorly determined parameters.

A.2.1. A New Color-based Temperature Estimate

It has proven useful to provide a new estimated T_{eff} based on $(g - z)_0$, as it has a longer baseline than other colors (e.g., $(g - r)_0$). This is especially useful for redder stars. After a careful calibration procedure using likely cluster members and the high-resolution calibration stars, we have derived the following two color-temperature relations, which are applicable

over two different metallicity ranges.

For $[\text{Fe}/\text{H}] < -1.5$,

$$T_{\text{eff}} = 6993 - 2573 \cdot (g - z)_0 + 530.9 \cdot (g - z)_0^2 \quad (\text{A3})$$

and for $[\text{Fe}/\text{H}] \geq -1.5$,

$$T_{\text{eff}} = 6947 - 2480 \cdot (g - z)_0 + 509.3 \cdot (g - z)_0^2. \quad (\text{A4})$$

The typical error in T_{eff} is less than 200 K for a dwarf with an uncertainty of 0.1 mag in $(g - z)_0$.

A.2.2. χ^2 Minimization with Fixed T_{eff} from $(g - z)_0$

Another set of $[\text{Fe}/\text{H}]$ and $\log g$ estimates are obtained from **NGS1**, **NGS2**, and **CaIIK1**, by minimizing χ^2 over $[\text{Fe}/\text{H}]$ and $\log g$ after fixing the temperature determined from the $(g - z)_0$ approach described above. In this procedure, the $\text{H}\beta$ line is masked out for the **NGS1** and **NGS2** methods. These parameters are derived as a check on the parameters of the metal-poor cool giants, for which the SSPP derives slightly higher temperatures (about 200 K) and higher metallicities (about 0.3 dex), as compared to the high-resolution analysis of the ESI spectra (Lai et al. 2009). For now, these parameters are not considered in the final averaging step.

A.2.3. Flux Interpolation Scheme

Since spline interpolation exhibits finer absorption features than the linear interpolation approach, the former is employed to obtain fluxes in the linear wavelength scale used by the SSPP than is derived from the SDSS logarithmic wavelength scale. The synthetic spectra for the **NGS1** and **NGS2** grids are also treated in the same fashion.

A.2.4. Spectroscopy-based Parameters

We have chosen to output another set of adopted T_{eff} , $\log g$, and $[\text{Fe}/\text{H}]$ estimates, following the same decision tree as before, but only including individual estimates for which reported colors (e.g. $(g - r)_0$) are not involved in the process of their determination. These

parameters are useful to compare with the final adopted parameters for cases where the reported colors are suspicious, just wrong, or highly reddened.

A.2.5. New Flags for Visual Inspection

A flag based on a six letter combination is added to speed up the visual inspection of the stellar spectra. Those spectra where one or more of these flags are raised are visually inspected, while those with no flags raised (‘nnnnnn’) can be safely assumed to be OK.

Definitions for each flag are as follows:

- ‘n’ : This flag indicates nominal behavior
- ‘F’ : This flag is raised if there are no parameters or no radial velocity determined
- ‘T’ : This flag is raised if the difference in T_{eff} between the adopted and $(g - z)_0$ color-based T_{eff} is > 500 K
- ‘t’ : This flag is raised if the difference in T_{eff} between the adopted and the spectroscopic-based T_{eff} is > 500 K
- ‘M’ : This flag is raised if the difference in $[\text{Fe}/\text{H}]$ between the adopted and spectroscopic-based $[\text{Fe}/\text{H}]$ is > 0.3 dex
- ‘m’ : This flag is raised if the error of the adopted metallicity is > 0.3 dex
- ‘C’ : This flag is raised if the correlation coefficient is < 0.4

A.2.6. Changes on Raising Flags

There have been some flags added and some dropped among the conventional SSPP flags. Table A2 lists the flag definitions used in SSPP-P8. Refer to the sixth column of the table to see if a flag is added or has dropped out. Note that the ‘P’ flag now has a different meaning than in SSPP-7, and the ‘N’ flag is replaced by ‘X’.

A.3. Comparison with High-Resolution Spectroscopic Observations

In addition to the high-resolution sample used to validate SSPP-7 (Allende Prieto et al. 2008), we have continued to add to the sample of SDSS/SEGUE stars that have been ob-

served with high-dispersion spectrographs on various large telescopes, such as HET, KECK, SUBARU, and the VLT. Table A3 summarizes the current sample of the high-resolution spectroscopy for SDSS and SEGUE stars. The ESI, SUBARU, and VLT data obtained since DR7 were analyzed by David Lai, Wako Aoki, and Piercarlo Bonifacio, respectively, who kindly provided their derived parameters in advance of publication.

Among about 340 stars, after removing problematic spectra, for example, those with low $S/N(< 20/1)$, we have 244 stars to compare with the parameters derived from SSPP-P8. Figure A2 shows a summary of these results (based on the adopted parameters only), including a comparison with SSPP-7. The grey dots and lines denote the comparisons with SSPP-P8, while the black dots and lines indicate comparisons with SSPP-7. The different total number of the stars to compare arises from the different number of high-resolution spectra available at the time of running each version of the SSPP. The reason for the much lower number of stars in the gravity comparison is that most of the SUBARU spectra were analyzed under the assumption of $\log g = 4.0$ (as they are mostly turn-off stars). Therefore, they were removed in order to obtain a fair comparison. Inspection of the plots shows that there is not much change in the T_{eff} and $\log g$ estimates between the SSPP-7 and SSPP-P8 versions, even with the much larger sample size now available, although the overall gravity determination is shifted by about 0.1 dex toward higher values.

Even though there are some outliers below $[\text{Fe}/\text{H}] < -2.0$, we can see that the scatter above $[\text{Fe}/\text{H}] > -1.0$ and the offset below $[\text{Fe}/\text{H}] < -2.5$ in SSPP-P8 are smaller than those of SSPP-7. Only considering the stars with $[\text{Fe}/\text{H}] > -1.0$ in the comparison with the high-resolution results, we obtain a scatter of 0.14 dex for SSPP-7 and 0.12 dex for SSPP-P8, whereas for the stars with $[\text{Fe}/\text{H}] < -2.5$, the offsets are 0.27 dex for SSPP-7 and 0.05 dex for SSPP-P8, with a similar scatter of about 0.24 dex. The much smaller scatter and offset found for SSPP-P8 arises mainly from the extended grid for the NGS2, the re-calibration of the metallicity scale for the NGS1 and the NGS2 methods, and the new outlier rejection algorithm for computing the final adopted metallicity. It is worth noting that the “waves” in the residuals for $[\text{Fe}/\text{H}]$ could in principle be empirically fit and calibrated out, but we have hesitated to do this until a more uniform and homogeneous set of high-resolution analyses has been carried out.

As mentioned in Section A.1.3, Figure A1 shows a comparison of the metallicity estimates for each method used in the present SSPP, as a function of the high-resolution estimates of temperature and metallicity. In this figure one can clearly also see the evidence of very similar “waves” in the metallicity residuals shown in the middle column of panels, which makes us suspicious that the problem lies in the high-resolution determinations, not in the individual methods themselves, which go back to very different individual calibration

approaches.

A.4. Comparison with Likely Cluster Member Stars

Two OCs (NGC 2420, M67) and three GCs (M15, M13, and M2) were used to calibrate and validate the parameters derived by SSPP-7 (Paper II). Since there was only one metal-rich cluster near solar metallicity (M67) and one metal-poor cluster (M15) included, at the high-metallicity and low-metallicity ends SSPP-7 was not well-calibrated, as can be seen in Figure A3. However, thanks to adding two more clusters to the list from Paper II (NGC 6791 and M92), one super metal-rich open cluster ($[\text{Fe}/\text{H}] = +0.3$), and another metal-poor globular cluster ($[\text{Fe}/\text{H}] = -2.35$), respectively, we are able to re-calibrate the individual pipelines in the SSPP, with the help of the high-resolution spectra for many stars with $[\text{Fe}/\text{H}] < -3.0$. Figure A4 shows the results of the calibration and the comparison. One can see that at both the metal-poor and metal-rich ends, SSPP-P8 reproduces the literature values very well, throughout the entire metallicity range shown in the figure.

A.5. Summary

We have described major and minor changes made to the SSPP since the DR7 version. There are three major changes: 1) an extended grid for NGS2 has been added, 2) a re-calibration for NGS1 and NGS2 has been performed, including four GCs (M92, M15, M13, and M2) and three OCs (NGC 2420, M67, and NGC 6791), along with the aid of SDSS/SEGUE stars for which high-resolution spectra were obtained, and 3) a new outlier rejection scheme has been introduced.

With the implementation of these major changes, an overall improvement for estimation of $[\text{Fe}/\text{H}]$ has been obtained for SSPP-P8. In particular, estimates at high and low metallicities have been much improved, compared to SSPP-7. Adopting the intrinsic error in $[\text{Fe}/\text{H}]$ for the HET data described in Paper II as a typical internal error for the high-resolution analysis (0.049 dex), and 0.23 dex in the lower panel of Figure A2 as the SSPP-P8 metallicity error, this results with an error of 0.225 dex for the metallicity after subtracting the errors in quadrature. Similarly, for gravity estimates, the error of the HET high-resolution spectra is 0.129 dex; accepting 0.24 dex as the SSPP-P8 error, and taking a quadratic subtraction of the two errors, including the 0.1 dex offset in SSPP-P8 as shown in the second panel of Figure A2, we obtain an expected error of 0.225 dex. Considering that the SDSS/SEGUE spectra are rather low resolution, these error estimates are remarkably good. They would

be even lower if we had a more uniform analysis of the high-resolution spectra available, a process that is now underway.

There are also various minor changes made on the SSPP. These changes help identify peculiar spectra and those with ill-measured parameters.

The calibration effort to improve parameter estimation of the SSPP will continue, focusing in particular on super metal-rich dwarfs, very low-gravity stars, low-metallicity stars, and cooler stars.

Table A1. Valid Ranges of $g - r$ and S/N for Individual Methods in the SSPP-P8

T_{eff}			$\log g$			$[\text{Fe}/\text{H}]$			S/N	Reference
Name	Method	$g - r$	Name	Method	$g - r$	Name	Method	$g - r$		
T1	ki13	0.0 – 0.8	G1	ki13	0.0 – 0.8	M1	ki13	0.0 – 0.8	≥ 15	§4.1
T2	k24	0.0 – 0.8	G2	k24	0.0 – 0.8	M2	k24	0.0 – 0.8	≥ 15	Allende Prieto et al. (2006)
T3	WBG	–0.3 – 0.3*	G3	WBG	–0.3 – 0.3*	M3	WBG	–0.3 – 0.3*	≥ 10	Wilhelm et al. (1999)
T4	ANNSR	–0.3 – 0.8	G4	ANNSR	–0.3 – 0.8	M4	ANNSR	–0.3 – 0.8	≥ 20	§4.3
T5	ANNRR	–0.3 – 1.2	G5	ANNRR	–0.3 – 1.2	M5	ANNRR	–0.3 – 1.2	≥ 10	Re Fiorentin et al. (2007)
T6	NGS1	–0.3 – 1.3	G6	NGS1	–0.3 – 1.3	M6	NGS1	–0.3 – 1.3	$\geq 10^*$	§4.4
...	.....	.....	G7	NGS2	0.0 – 1.3	M7	NGS2	0.0 – 1.3	≥ 20	§4.4
...	.....	.....	G8	CaI1	0.3 – 1.2*	M8	CaIIK1	–0.3 – 0.8	≥ 10	§4.5
...	.....	.....	...	.....	.....	M9	CaIIK2	0.1 – 0.8	≥ 10	Beers et al. (1999)
...	.....	.....	...	.....	.....	M10	CaIIK3	0.1 – 0.8	≥ 10	§4.6
...	.....	.....	...	.....	.....	M11	ACF	0.1 – 0.9	≥ 15	Beers et al. (1999)
...	.....	.....	...	.....	.....	M12	CaIIT	0.1 – 0.7	≥ 20	Cenarro et al. (2001a,b)
...	.....	.....	G9	CaI2	0.3 – 1.2*	≥ 10	Morrison et al. (2003)
...	.....	.....	G10	MgH	0.3 – 1.2*	≥ 10	Morrison et al. (2003)
T7	HA24	0.1 – 0.8*	≥ 10	§5.1
T8	HD24	0.1 – 0.6*	≥ 10	§5.1
T9	T_K	–0.3 – 1.3	...	.....	.....	...	.....	.....	N/A	§5.1
T10	T_G	–0.3 – 1.3	...	.....	.....	...	.....	.....	N/A	§5.1
T11	T_I	–0.3 – 1.3	...	.....	.....	...	.....	.....	N/A	Ivezić et al. (2008)

Note. — The symbol * indicates that changes have been made in the color or S/N range. The section number listed is that from Paper I, and references therein.

Table A2. Brief Descriptions of SSPP Flags

Position	Flag	Description	Category	Parameter	Status
First	n	Appears normal	.....	Yes	.....
	D	Likely white dwarf	Critical	No	.....
	d	Likely sdO or sdB	Critical	No	.....
	H	Hot star with $T_{\text{eff}} > 10,000$ K	Critical	No	.....
	h	Helium line detected, possibly very hot star	Critical	No	.....
	l	Likely late type solar abundance star	Cautionary	Yes	.....
	E	Emission lines in spectrum	Critical	No	.....
	S	Sky spectrum	Critical	No	.....
	V	No radial velocity information	Critical	No	.....
	N	Very noisy spectrum	Cautionary	Yes	.....
Second	n	Appears normal	.....	Yes	.....
	C	The photometric $g - r$ color may be incorrect	Cautionary	Yes	.....
Third	n	Appears normal	.....	Yes	.....
	B	Unexpected $H\alpha$ strength predicted from $H\delta$	Cautionary	Yes	.....
	b	If d or D flag is not raised among stars with B flag	Yes	Add	
Fourth	n	Appears normal	.....	Yes	.....
	G	Strong G-band feature	Cautionary	Yes	.....
	g	Mild G-band feature	Cautionary	Yes	.....
Fifth	n	Appears normal	.....	Yes	.....
	P	Parameters reported for $5.0 \leq S/N < 10.0$	Cautionary	Yes	Drop
	N	No parameters	Critical	No	Drop
	B	Too blue ($(g - r)_0 < -0.3$) to estimate parameters	Critical	No	Add
	R	Too red ($(g - r)_0 > 1.3$) to estimate parameters	Critical	No	Add
	X	No parameters estimated	Critical	No	Add
	c	Correlation coefficient < 0.4	Cautionary	Yes	Add
	T	Different between adopted T_{eff} and $(g - z)_0$ -based $T_{\text{eff}} > 500$ K	Cautionary	Yes	Add
	P	Possible predicted $(g - r)_0$ is wrong	Cautionary	Yes	Add
RV	NORV	No radial velocity information	.....	No	.....
	ELRV	Radial velocity from ELODIE template	.....	Yes	.....
	BSRV	Radial velocity from <code>spectro1d</code>	.....	Yes	.....
	RVCAL	Radial velocity calculated from SSPP	.....	Yes	.....

Note. — No parameters are reported when ‘Critical’ flags are raised.

Table A3. Updated List of High-Resolution Spectra for SDSS and SEGUE Stars

Telescope	Instrument	Resolving power	Wavelength coverage (Å)	Number of stars
KECK - I	HIRES	45000	3800–10000	11
KECK - II	ESI	6000	3800–10000	51
HET	HRS	15000	4400–8000	110
SUBARU	HDS	45000	3200–8000	151
VLT	UVES	60000	3300–8000	20

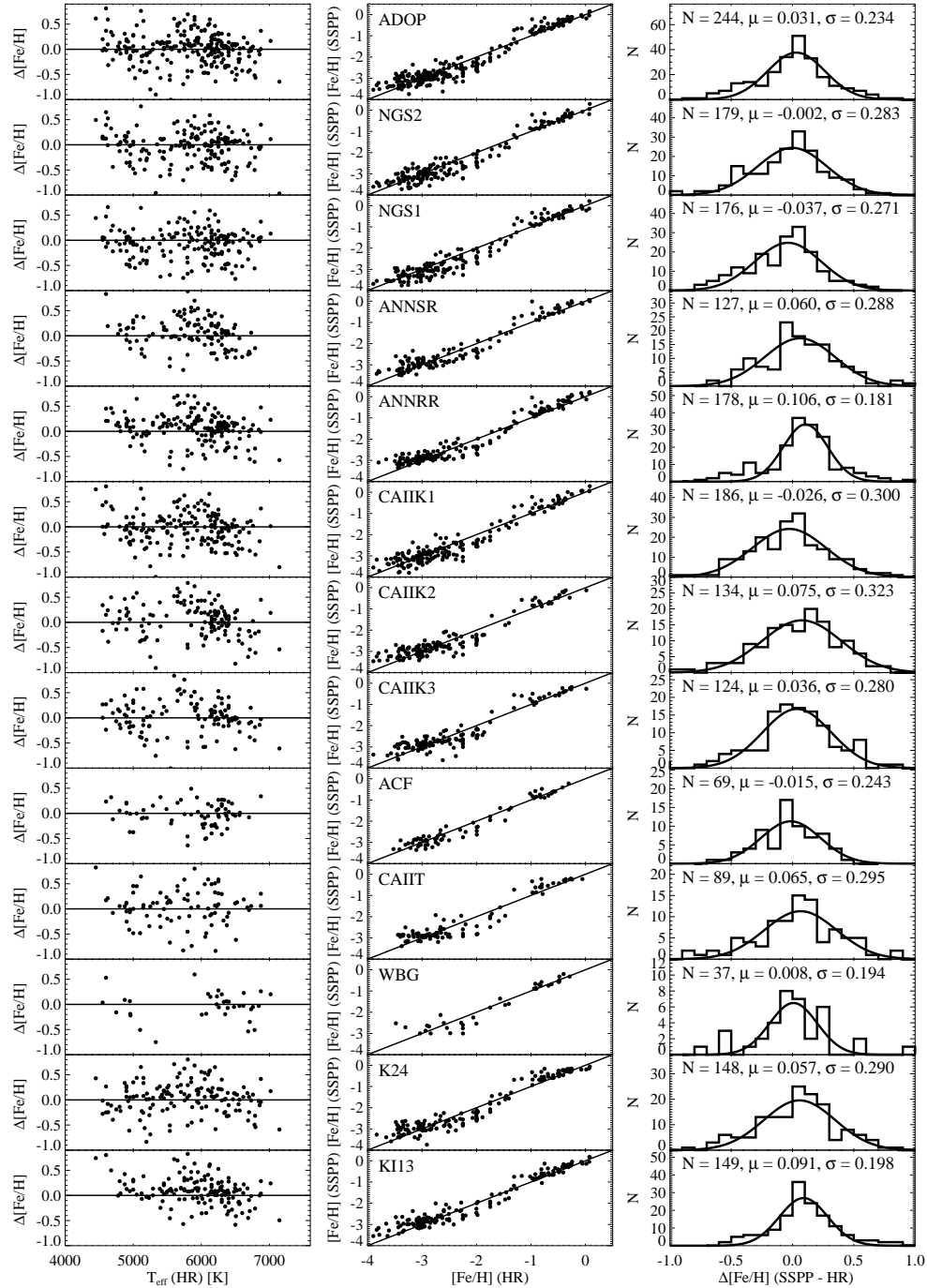


Fig. A1.— Metallicity comparison of the individual methods in SSPP-P8 with the metallicities obtained from high-resolution spectra. Because only the estimators with indicator variables set to 2 are considered (except in the case of the adopted value ADOP), the total number of the stars differs from method to method. These plots show how well the outlier rejection routine works – there are few large outliers in the individual comparisons.

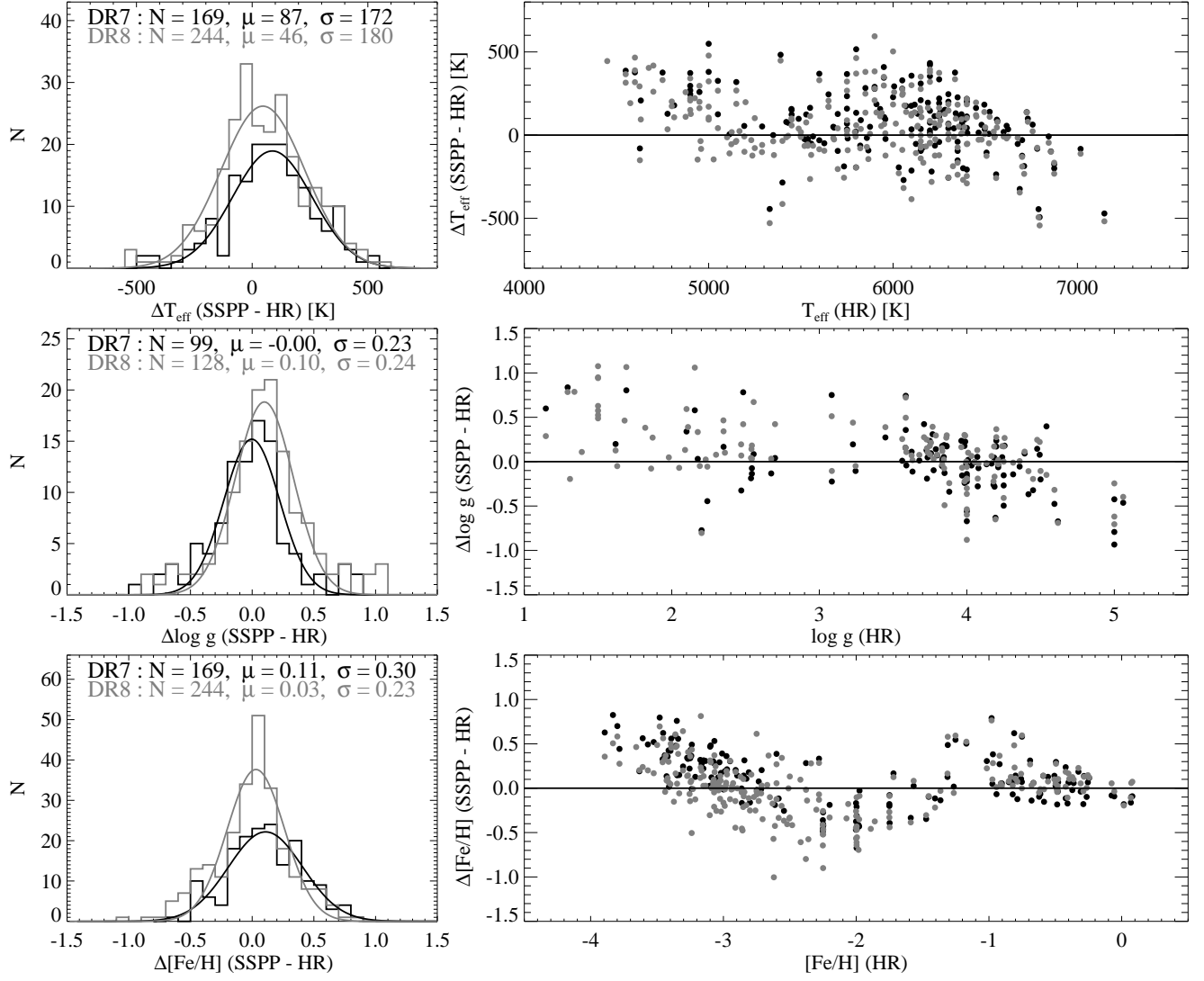


Fig. A2.— Comparison of SSPP-7 with SSPP-P8 for the high-resolution calibration stars. The grey dots and lines are associated with SSPP-P8, while the black dots and lines correspond to SSPP-7. Although there are still outliers, overall there is substantial improvement in estimation of $[\text{Fe}/\text{H}]$ in SSPP-P8, as can be seen at the top of the lower-right panel. The offset is reduced by 0.08 dex and the scatter by 0.07 dex from SSPP-7 to SSPP-P8. Note that the high-resolution results are (unfortunately) not all derived in a homogeneous manner, a defect that hopefully will be remedied soon, based on work in progress. In particular, we believe that the “waves” in the metallicity estimates arise, not due to inconsistencies in the SSPP, but rather, due to the inhomogeneous high-resolution analyses.

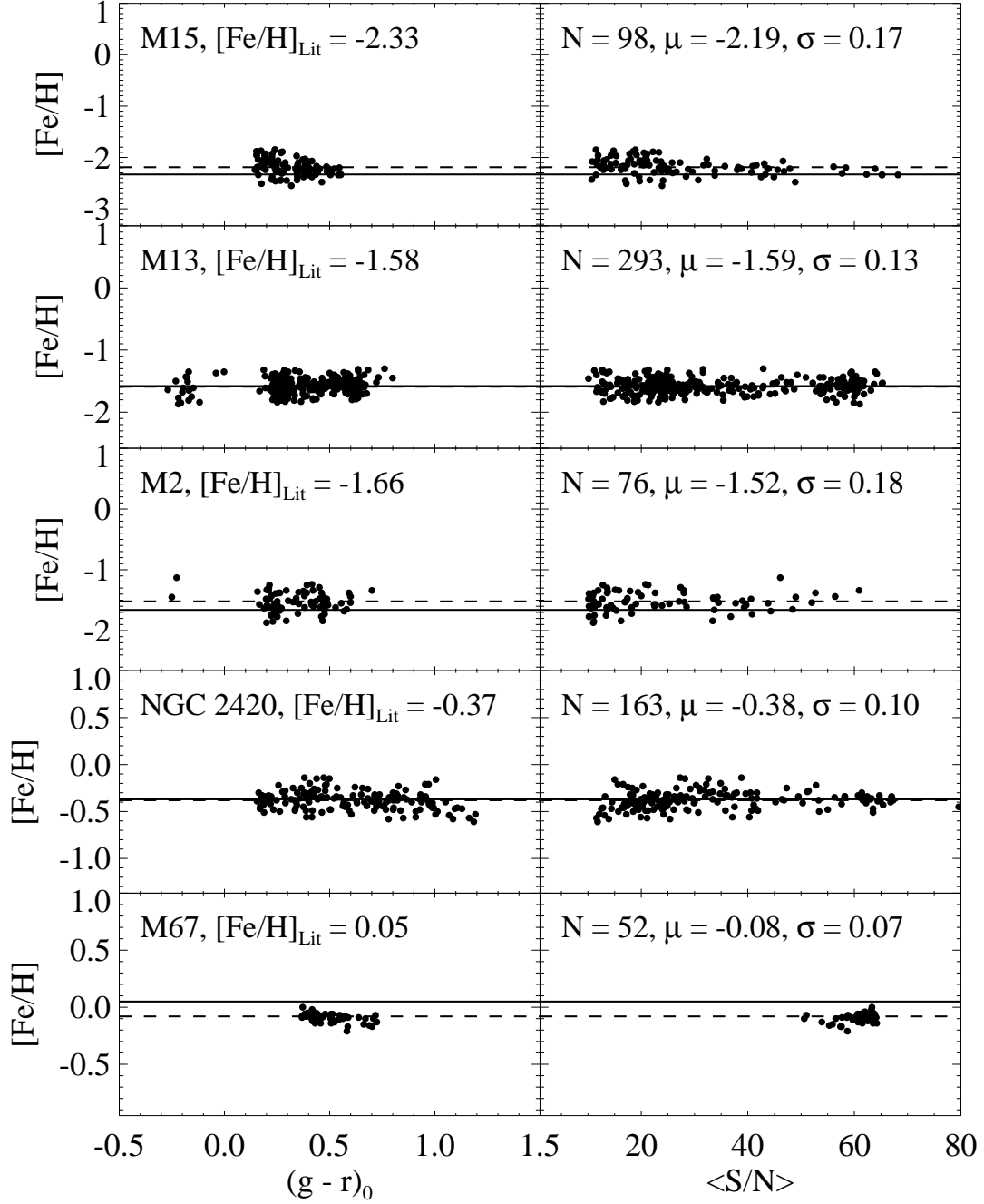


Fig. A3.— Comparison with true cluster member stars based on SSPP-7. The solid line indicates the literature value, while the dashed line is the average value reported by SSPP-7 for a given cluster. Note that there exist slight offsets between the overall mean of SSPP-7 estimates and the literature values for M15, M2, and M67.

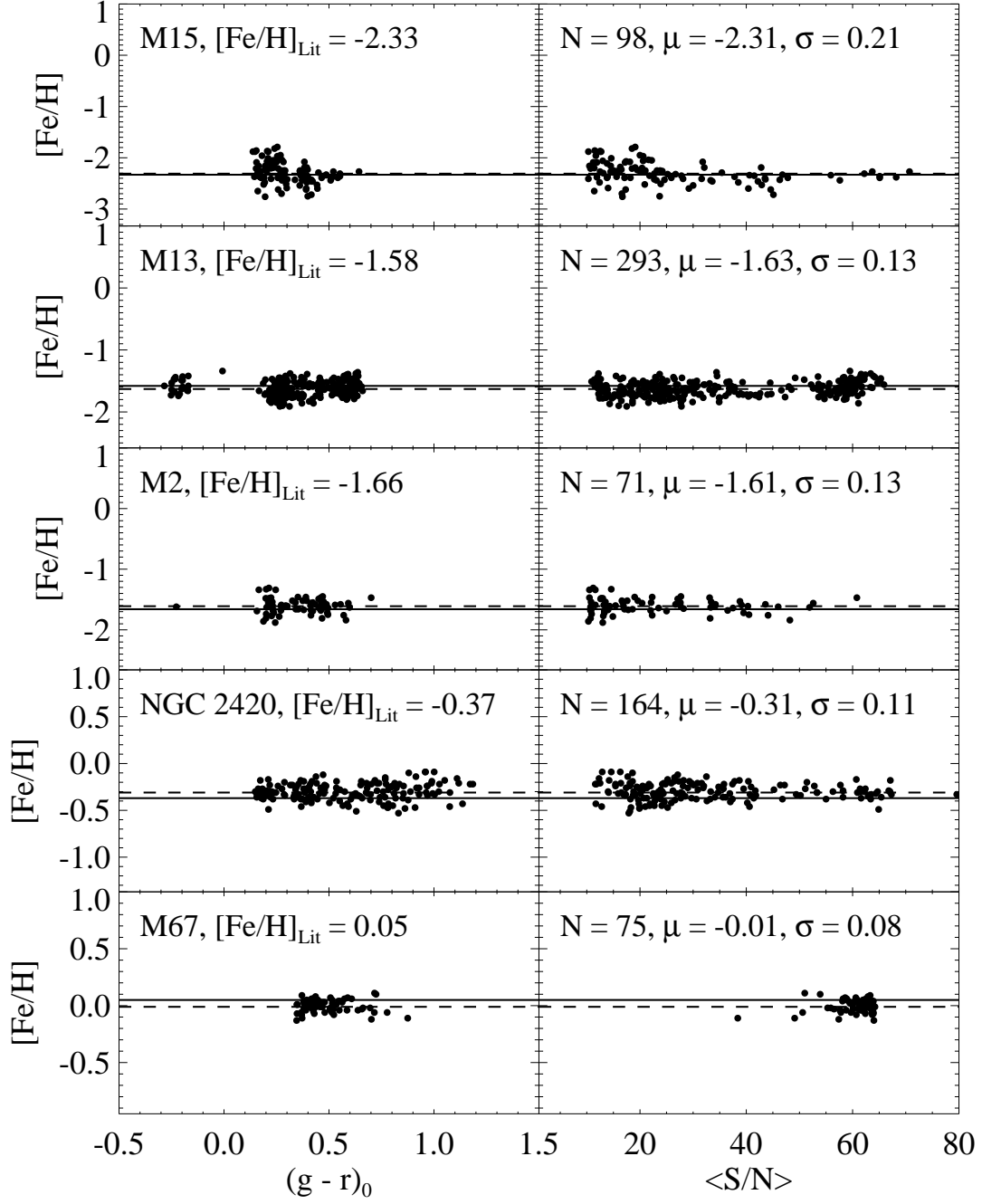


Fig. A4.— Comparison with true cluster member stars based on SSPP-P8. The solid line indicates the literature value, while the dashed line is the average value reported by SSPP-P8 for a given cluster. Comparing with the SSPP-7 plot shown in Figure A3, note that the slight offsets between the overall means of SSPP-P8 and the literature values for M15, M2, and M67 are much smaller.